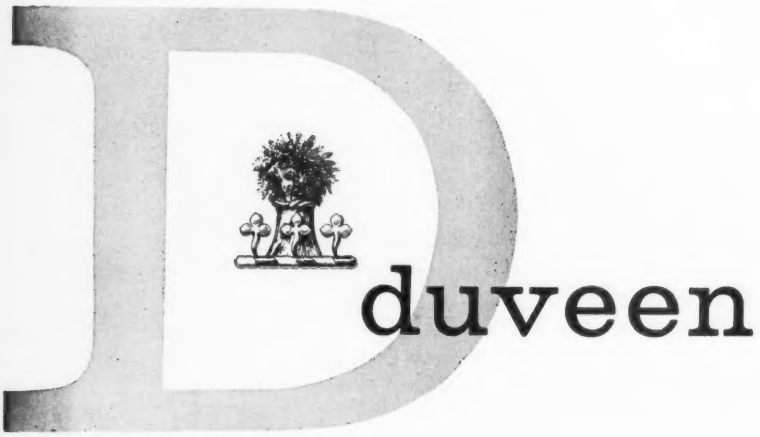

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Drug and Cosmetic Industry

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Books. Technical information for manufacturers of drugs and cosmetics.

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"I changed perfume!"

Keeping Posted

Proposed Drug and Cosmetic Legislation

The Food and Drug Administration would gain additional authority from a bill being drafted under the direction of Secretary of Health, Education, and Welfare Ribicoff. Since some of the proposals are milder than those in the Kefauver bill, they may be acceptable to the industry as the lesser evil. In any event, it seems unlikely that drug legislation will be passed during this session, because of delay in submitting an Administration bill, and hearings on Senator Kefauver's bill have not yet been held.

Officials of the FDA have made the following recommendations to Secretary Ribicoff: FDA wants greater factory inspection authority. This would include the right to inspect control records and production processes to verify the manufacture of safe foods, drugs, and cosmetics. Inspectors could examine company complaint files to determine at the earliest possible time when products are showing adverse reactions; they could inspect and pass on the qualifications of scientific personnel and have access to formulas of products, to make sure that tolerance limits are observed. Under present regulations, FDA inspectors may examine only production processes and equipment in use at the time of the visit.

The FDA wishes to establish detailed safety standards for the manufacture of prescription and nonprescription drugs. It also wishes to investigate procedures of independent laboratories that test products for companies before marketing. These inspection and safety control powers would be backed up by FDA authority to prevent marketing of drugs if the agency finds substandard production conditions; the agency could obtain an injunction to bar interstate shipments and might also seek additional criminal penalties for violation of the Act. At present, the FDA must generally move against misbranded and adulterated drugs after they have been marketed.

The FDA will ask for legislation requiring manufacturers to report all adverse side effects of drugs, and seeks to pass on their efficacy before marketing. Counterfeiting, in the intended legislation, would be a criminal offense, with heavy penalties; all antibiotics would be certified as to potency at the manufacturers' expense, instead of only a few; manufacturers of barbiturates and amphetamines would have to be registered and keep records of shipments for FDA inspection.

Medical devices would have to be tested by manufacturers and proved safe and effective, while manufacturers of cosmetics would be required to test and prove them safe before being granted Government permission for marketing.

AMA-Cosmetic Industry Cooperation

You'll have to say this for the American Medical Association—it never stops trying. Now it hopes to help the cosmetic industry run its business. Through its Committee on Cosmetics, it wishes to "cooperate" with the Society of Cosmetic Chemists, although the Toilet Goods Association has already rejected such an offer. This cooperation, as outlined by Dr. Joseph B. Jerome, secretary of the Committee, in a paper he presented before the Society of Cosmetic Chemists on May 12, would involve, along with less striking suggestions, the following: the making available to the AMA of industry complaint files; setting up, under the supervision of the AMA Committee on Cosmetics, of an ingredient and product information center; the establishing of effective concentration limits of active ingredients in cosmetics; cooperative review and evaluation of cosmetic literature; cooperation in educating the consumer concerning cosmetics.

These modest proposals seem based on the assumption that the Food and Drug Administration and the Federal Trade Commission need the assistance of the American Medical Association in carrying out

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their duties. Furthermore, they carry the implication that scientists and technicians directly affiliated with the industry need the assistance of an AMA Committee, in reading and interpreting medical literature. Finally, they assume that the industry, and the consuming public, can gain from this cooperation.

As a matter of fact, both the FDA and the FTC have a quite intimate knowledge of the cosmetic industry, and the ability to acquire additional information and interpretation without calling upon complete outsiders; the assumption by the AMA that scientifically trained personnel in the industry need outside assistance in interpreting technical literature only demonstrates that the AMA doesn't know these people very well. When assistance is needed, companies hire or retain dermatologists as they do chemists, but don't get involved in committees. Finally, the AMA is assuming that cooperation with the pharmaceutical industry might set a pattern for cooperation with the cosmetic industry. There is no reason why this should be the case: physicians in their professional capacity are pharmaceutical industry customers, and need to be trained in the use of potent drugs, which is certainly not the case with cosmetics. The cosmetic industry may have to put up with the sniping of organized medicine from without, but has no need to invite attempts at control from within.

British Ministry to Buy Foreign Drugs

The British Ministry of Health intends to buy drugs for its hospital service from unlicensed pharmaceutical producers elsewhere in Europe, apparently in the same manner as the U. S. Military Medical Supply Agency and the Veterans Administration. This action is so far limited to drugs purchased for the hospital service, now valued at $39 million annually, but the announcement does not mention drugs valued at $310 million each year used in the prescription service.

Bids have so far been requested on tetracycline, chloramphenicol, and chlorothiazide and the Ministry of Health will try to negotiate royalty agreements with British producers. Purchases of tetracycline, chloramphenicol and chlorothiazide total about $3 million and a saving of almost $1 million is expected from the new scheme.

The Association of the British Pharmaceutical Industry views the government decision with "grave misgiving."

APhA Resolutions

The American Pharmaceutical Association at its 1961 annual meeting adopted a number of resolutions to define its position in certain areas.

A national fund-raising drive is to be undertaken for money needed to defend against antitrust actions; all prescriptions should be dispensed only by licensed pharmacists; dispensing of prescriptions is a professional service and the concept of the professional fee is endorsed; Senator Humphrey's bills recognizing the professional status of pharmacists are endorsed; commends the Federal Trade Commission for its interest in false, misleading, or deceptive advertising; opposes the advertising of prescription drugs to the public; pharmacists knowingly involved in the manufacture, distribution, and dispensing of counterfeit drugs are subject to expulsion from the Association; approves of the National Science Fair program, the Peace Corps, accident prevention; asks draft boards to evaluate the community position of the pharmacist; will develop a position paper establishing APhA policy for the effective utilization of pharmacists in civil defense.

In a separate statement, the American Pharmaceutical Association re-emphasized its support of the price maintenance of branded merchandise sold to the general public in pharmacies.

Excise Tax Repeal Committee

The National Committee for Repeal of Excise Taxes on Handbags and Toiletries, organized recently in Chicago, has initiated a consumer education program pointing up the inequities these taxes continue to impose upon consumers.

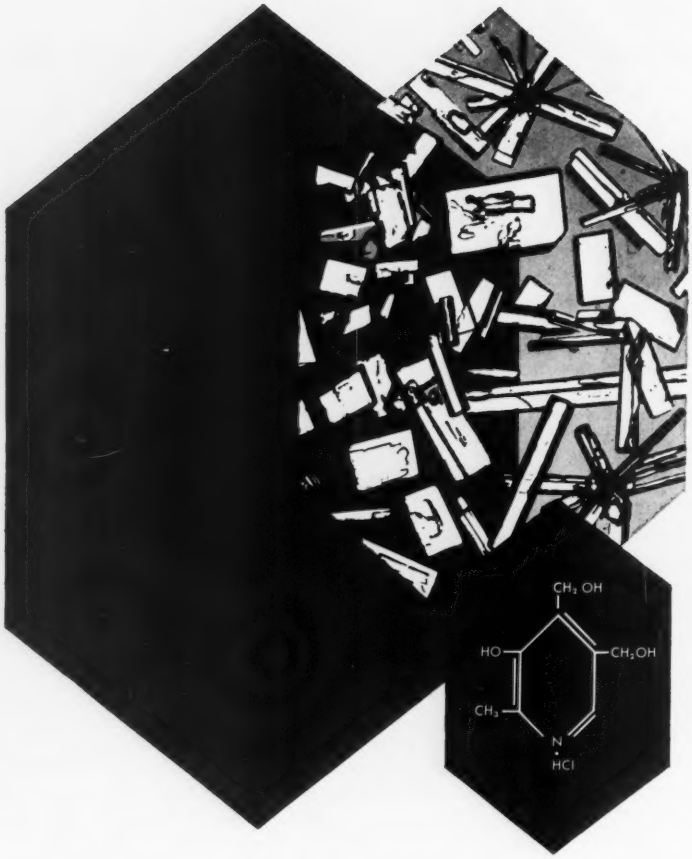
Levied in 1941 at 20 per cent to limit sales and conserve essential materials for the war effort, the taxes were to terminate at the end of the war, but are still being collected, at the 10 per cent level.

Among members of the committee are Fran Allison, Elizabeth Arden, Hellen Bullard, G. B. Burrus, Mrs. John S. Clark, Mrs. Doris Corwith, Martha Crane, Harry B. Cunningham, Justin W. Dart, Mrs. Shelley Carter Davis, Jean Despres, Alfred E. Driscoll, Doris I. Height, Mrs. Hiram Cole Houghton, Ches B. Larsen, Alice Leopold, Mrs. Edward W. Macy, Dr. Anne Raleigh McCarthy, Mrs. Harold V. Milligan, Mrs. Louise Popeil, Mrs. James M. Skinner, Jr., Alice Sturgis, Zola Vincent, C. R. Walgreen, Jr., Mrs. John Miller Williams, Marshall K. Wood, Norman Zukowsky.

Intrastate Business

Eli Lilly and Company filed a suit in a New Jersey court to compel a retailer to adhere to Lilly fair trade prices and the court refused to consider the case because Lilly had failed to register to do business in the state. Now this decision by the New Jersey court has been upheld by the Supreme Court. The Supreme Court majority maintained that Lilly was involved in intrastate as well as interstate commerce in the state and the company should conform with state requirements that it register. If the company failed to register it could not properly complain about being denied the use of state courts.

This line of reasoning is considered by some tax authorities to be a blow to the enforcement of price maintenance; out-of-state manufacturers may now be open to local taxation and the advantages of price enforcement may be outweighed by additional taxa-



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tion. A broad implication of the Supreme Court ruling may be that the activities of a national company's employees within a state will be considered part of intrastate business.

Soap and Synthetic Detergent Sales

Soap and synthetic detergent sales rose to a new high in the first quarter of 1961, according to reports from 51 manufacturers participating in the quarterly sales census conducted by the Association of American Soap & Glycerine Producers, Inc. Sales totaled 1,102,077,000 pounds valued at $278,631,000. Compared to the first quarter of 1960, sales were up 1.9 per cent in volume and 1.0 per cent in value.

Synthetic detergent sales totaled 858,277,000 pounds and $206,233,000, an increase over the first three months of 1960 of 3.9 per cent in quantity and 2.6 per cent in value. Sales of solid synthetic detergents amounted to 661,633,000 pounds valued at $143,623,000, compared with 660,542,000 pounds and $144,123,000 for the same period of last year. Liquid synthetic detergents totaled 180,640,000 pounds and $56,256,000, increases of 13.8 per cent and 10.1 per cent, respectively, over the first quarter of 1960. Soap sales amounted to 243,800,000 pounds and $72,398,000, compared with 256,022,000 pounds and $74,844,000 for the same period of 1960.

For the first quarter of 1961, reported sales of shaving soap were 438,000 pounds, valued at $287,000; shaving cream, 5,467,000 pounds, valued at $4,918,000; packaged liquid soap shampoos, 96,000 pounds valued at $49,000; synthetic detergent shampoos, 16,004,000 pounds valued at $6,354,000.

Statistics for Men's Products

Sports Illustrated sent questionnaires to 3,000 subscribers and 1,718 responded with the following information about their use of various toilet preparations.

Hair grooming preparations were used by 70.9 per cent of respondents, and of these, 38.4 per cent used a liquid cream oil, 19.4 per cent a clear oil, 17.6 an alcohol type product, and 14.2 per cent a pomade. A shampoo was used by 1,234 or 71.8 per cent of respondents.

A pre-shave preparation was used by 461 men, or 26.8 per cent, and shaving cream or soap by 61.4 per cent. The type of pre-shave preparation preferred by users was the liquid, 80.2 per cent, the stick being used by 9.9 per cent, the powder by 7.8 per cent, and others by 5.1 per cent. Aerosol preparations were preferred by 56.4 per cent of shaving cream and soap users, brusshless cream by 14.5 per cent, lather cream by 18.7 per cent, soap by 15.8 per cent and other preparations by 0.5 per cent.

Blade razors were used by 63.0 per cent of those who filled out the questionnaire, electric razors by 57.6 per cent, with some men using both. After shave lotion was used by 68.9 per cent, shaving talc by 20.6 per cent, bath talc by 18.0, cologne by 20.0 per cent. Deodorants were used by 1386, or 80.7 per cent of respondents, divided among creams 16.1 per cent, spray 30.2 per cent, aerosol 3.4 per cent, roll-on 32.0 per cent, stick 27.6 per cent, and others 3.6 per cent.

Mouthwash was used by 41.1 per cent of the men participating in the survey, dentifrices by 91.2 per cent, and sun tan preparations by 26.8 per cent.

Men's Use of Proprietaries

In the same *Sports Illustrated* survey, the 1,718 men responded to questions about the types of medication they keep on hand. Percentages of users were: nasal decongestants, 52.0 per cent; antihistamine, 30.0 per cent; cold remedy, 50.1 per cent; headache remedy, 89.6 per cent; upset stomach remedy, 53.9 per cent; motion sickness remedy, 13.1 per cent; muscular pain remedy, 37.3 per cent; athlete's foot remedy; eye wash, 34.2 per cent; chap or sunburn balm, 53.5 per cent; vitamins, 55.2 per cent; insect repellant 42.3 per cent.

Hazardous Substances

S. L. Mayham, executive vice-president of the Toilet Goods Association, asked John L. Harvey, Deputy Commissioner of Foods and Drugs, for clarification of the status of paraphenylene diamine and oil of bergamot, mentioned in the regulations under the Federal Hazardous Substances Labeling Act as strong sensitizers. In his reply, Mr. Harvey stated, "You are correct that substances intended for use as components of a cosmetic are also cosmetics. As such, they would be exempt from the provisions of this statute. If, however, the same substances were intended for use other than as a food, drug, or cosmetic, they might be hazardous substances. For instance, paraphenylene diamine as an ingredient of a photographic preparation or oil of bergamot as an odor in a commercial cleaner would be hazardous substances."

Pfizer Grants in 1960

Grants of more than $1 million were made for scientific research and medical education last year by Chas. Pfizer & Co., Inc. and The Pfizer Foundation. Included in the total of $1,053,951 was the sum of $171,715 granted by Pfizer's overseas organizations to support research and education outside of the United States.

Grants-in-aid to universities, medical schools, pharmacy and agricultural colleges accounted for the largest allocation of approximately $662,000. In addition, $220,000 was awarded under a continuing program designed to aid resident medical interns in completing their education. As part of the education program, the company assists employees and their children.

The grants do not include various emergency drug shipments made throughout 1960.

Don Powers Back in Harness

Dr. Donald H. Powers has been named assistant director of Fabric Research Laboratories, Inc. of Dedham, Mass. As his many friends could have guessed, it was inevitable that Don Powers would react to the right kind of challenge as the fire horse reacts to the alarm bell. He has put together an unbelievable quantity of work in his professional career—director of cosmetic research for Warner-Lambert, consultant to Arthur D. Little, synthetic rubber research with duPont, research director in the textile field, head of the textile division of Rohm & Haas, and director of the textile chemical department of Monsanto. Fabric Research is obviously doing well for itself, and to Don our continued best wishes.

Proprietary Association Officers

At the 80th convention of the Proprietary Association, held at White Sulphur Springs, officers reelected for one year terms were president, Joel Y. Lund; vice-presidents, Ivan D. Combe, Jerome Straka; newly elected vice-president was J. N. Cooke. Members of the executive committee include Kirby Peake, Lewis Bonham, James B. Braun, George H. Hyde, William F. Laporte, Lamar Swift. Honorary vice-presidents elected for three-year terms were Charles S. Beardsley, A. H. Diebold, Edward K. Hyde, S. M. Rising.

Federal Trade Commission Actions

A Federal Trade Commission hearing examiner has ruled that "sandpaper-shaving" television commercials for Palmolive Rapid Shave are not deceptive but merely "harmless exaggeration or puffing." Accordingly, the examiner issued an order which would dismiss the FTC complaint of January 8, 1960 against the Colgate-Palmolive Co. and Ted Bates & Co., Inc. This is not a final decision of the Commission and may be appealed, stayed or docketed for review.

Although a plexiglass mock-up was used in place of sandpaper for the demonstrations, the examiner said that no material misrepresentation of the product was involved, since sandpaper actually can be shaved through use of the product if allowed sufficient time to soak.

"Fundamentally," he added, "the question presented here, as in any case charging false advertising, is: Has there been any material misrepresentation of the product? In the present case it seems clear that there has not. The shaving cream does possess at least adequate moistening or wetting properties, and sandpaper can be shaved through use of the product, provided adequate time for soaking is allowed."

"Essentially," he continued, "what is presented here would appear to be little or nothing more than a case of harmless exaggeration or puffing. Obviously the sandpaper sequences were employed simply for the purpose of emphasizing and dramatizing the recognized moistening or wetting properties of the cream. It is difficult to believe that anyone could have been misled as to the properties or qualities of the product."

On the other hand, the Menen Co. has consented to an order forbidding it to use deceptive pictorial presentations to sell its "Mennen Sof' Stroke" aerosol shaving cream.

The company was charged in the complaint of last October 17 with employing false and misleading artifices in television advertising supposedly showing the product's superiority over competing brands of aerosol shaving cream. The order requires Mennen to stop using any demonstration purporting to prove that Mennen Sof' Stroke is superior to competing products, when such proof is not actually given; disparaging competitive products by untruthful statements or misleading or deceptive methods.

The agreement is for settlement purposes only and does not constitute an admission by the company that it has violated the law.

Richardson-Merrell Inc. was charged with falsely advertising that its "Vick's Double-Buffered Cold Tablets" will cure or shorten the duration of a common cold and the complaint alleges that the concern has made this false claim in radio commercials, newspapers, magazines and other media. The complaint charges that the cold tablets will neither cure nor shorten the duration of a common cold. The company is granted 30 days in which to file answer to the complaint.

The FTC announced complaints against two manufacturers of sedatives, charging each with misrepresenting that its product is a new medical or scientific discovery which is absolutely harmless and safe to take. The respondents are Thomson Medical Co., Inc., of New York City, selling "Tranquil-Aid," and Sedaquil, Inc., of Bedford, Ohio, making "Sedaquil" or "Sedaquilin." The Commission alleges that neither sedative is new since its ingredients have been known to and prescribed by the medical profession for some time. Both are dangerous when taken by some individuals, the complaints add.

In separate complaints, FTC charged the following concerns with making false therapeutic claims for their vitamin and mineral preparations: Phoenix Pharmaceutical Co. and its subsidiary, The Vitamin Center, Inc., of Hartford, Conn., and Evelyn Miller, trading as Vitalife, Vitalife Vitamins, Vitalife Products and Vital Health-Foods Co. of Cedar Rapids, Iowa. The complaints allege that the respondents advertise their products will be of benefit in treating certain symptoms when they actually will be beneficial only in the small minority of cases resulting from an established deficiency of one or more of the nutrients provided by the preparations. •

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THE DRUGSTORE
Outlet or Bottleneck?

BY MILTON MOSKOWITZ

A top executive of one of the nation's largest pharmaceutical producers recently addressed a meeting in New York, and in the course of his talk he made some disparaging references to the operations of the National Health Service in Great Britain. In his prepared text, which was released to the press in advance, he noted with alarm that in Britain "the pharmacist does nothing more than fill prescriptions and collect his money from the government." When the talk was delivered, however, this line was missing from the address. The drug company executive explained, somewhat sheepishly, that he had deleted this mention from his talk because he realized suddenly that the same situation now obtains with the American pharmacist, except of course that he does not collect his money from the government. He collects it from the consumer, but he doesn't do much more today than transfer pills from a large bottle to a small one.

The reason the drug company executive was sheepish about this point is obvious: Manufacturer-pharmacy relationships are sore points these days in the United States drug industry. The manufacturer, to put it bluntly, is dissatisfied with the drugstore, but he dare not mention it in public. He dare not mention it because, satisfied or not, the manufacturer must depend on the drugstore as the prime retail seller of his products. In private conversation, however, the manufacturer will talk a blue streak about the inadequacies of the drugstore. As the official of one leading ethical drug producer recently said to me, "We have a Twentieth Century manufacturing process harnessed to an Eighteenth Century distribution system."

The strained relationship between manufacturer and retailer has become aggravated further in the past two years as a result of mounting public criticism of the industry. Much of this criticism has centered about the allegedly high prices of prescription drugs. A prime factor in the price level of drugs is the 40 per cent markup taken by the pharmacist, but this has usually been glossed over. It is the manufacturer who has borne the brunt of the attack. And the manufacturer, of course, cannot turn around and point an accusing finger at the drugstore, since he is almost wholly dependent on the drugstore for the sale of his products.

"Your chiseling doctor prescribed nothing but aspirin —that'll be $2.50, please."

Back in pre-World War II days, there was a standing joke about the drugstore proprietor who went to pharmacy school to get his license, and then found out that his livelihood was more dependent on his skill as a soda jerk than his competence in compounding. In the post-World War II years, if you thumb through the publications serving the retail druggist, you find that more and more drugstores are disbanding their soda fountains, and many of those that are opening have no soda fountains to begin with. This trend reflects the changes in the pharmaceutical industry. Ethical drug sales have soared and the pharmacist has found that a comfortable living can be made by filling prescriptions. Who needs a soda fountain?

It is ironic that in former days, when some skill was required in compounding drugs, the pharmacist had to develop sidelines like a soda fountain to generate business, while today, when less than 10 per cent of prescriptions require any compounding, the sidelines are not needed—prescriptions generate enough business on their own.

The old myths are perpetuated, however. There

are still druggists who pompously call themselves "chemists." There is a lot of rigmarole about the "professionalism" of the pharmacist. And, although few people are fooled any more, there are still a good many pharmacists who, when confronted with a prescription for 12 Declomycin tablets, will say with a straight face (and the store empty), "Thank you, sir, that will take about 20 minutes to prepare."

Few of our merchandising institutions have shown more resistance to change than the local drugstore. We have been undergoing for many years what has been widely acclaimed as a "marketing revolution," involving low-margin retailing of a mass volume of goods. This has killed off thousands of high-margin "mom & pop" stores and resulted in the supremacy of the huge self-service supermarket. Europeans have traveled here in droves to study this development, hoping to introduce these practices in their own countries as a spur to the economy. But, had they looked around, these visitors could have seen existing side-by-side with the supermarket the antiquated drugstore, selling just as European stores sell. Between 1948 and 1960, while food sales in the country were climbing steadily upwards at a spectacular rate, the number of stores selling food actually declined sharply, falling from 504,439 to 332,490. During this same period drug sales were also moving ahead at a vigorous pace—but what happened at the retail level? There were 55,796 drugstores in the country in 1948; today, there are 58,500.

One of the cardinal virtues of the American economic system is supposed to be competition. The supermarket thrives by offering food at lower prices. The discount houses have flourished with this technique. In the appliance field, it is becoming increasingly rare for something to be purchased at list price. But, as everyone knows, the drugstore is the last stronghold of "fair trade." Drugstores don't compete on price and they consider it dirty and immoral for anyone to do so.

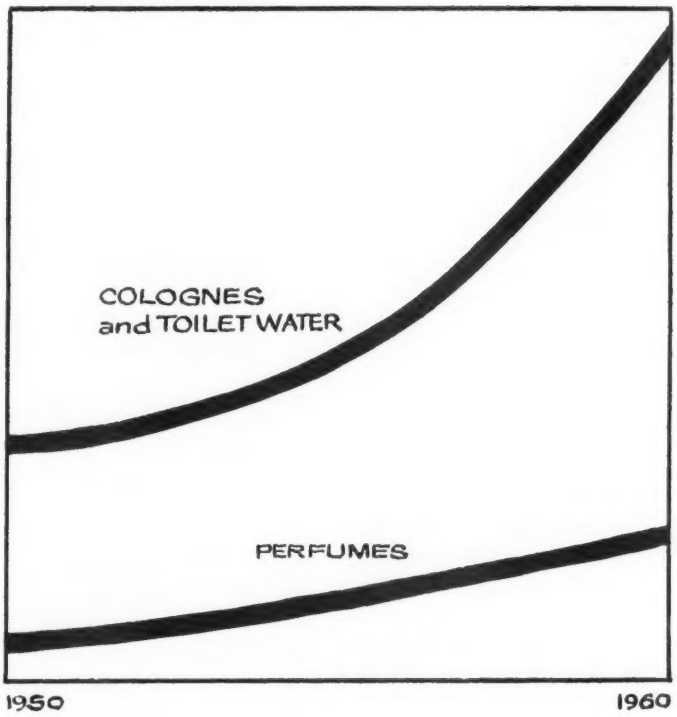
The retail drug trade has held out against progress even though it has meant lost business. Twenty-five years ago the sales of such items as razor blades, hair preparations and toothpaste were largely confined to your friendly local druggist. No more is this true. The supermarket, discount house and department store have made huge inroads in these markets, and each year the drugstore does less and less of this business. When Mead Johnson recently hit the sales jackpot with Metrecal, it found out very quickly that its drugstore-based marketing system would not work for such a product. Sure, the druggist all knew Mead Johnson and they pushed Metrecal. But Borden, National Dairy and Foremost knew how to market through food stores—and Mead Johnson had to move fast to match them in this area if it didn't want to get clobbered. Now, imagine what those same food stores could do with Mead Johnson's vitamin line?

In pharmaceuticals, of course, the druggist remains king of the hill, particularly in the prescription field, although he faces more challenges every day. A fierce struggle is currently being waged in New York State over the right of food stores to sell aspirin. The Pharmaceutical Society of New York, an organization of retail druggists, is fighting tooth and nail to save this market for the drugstores. They have been distributing to their members advertising mats designed to scare consumers with such propaganda messages as: "So You Think Aspirin Is Harmless?" These ads then recount how many people were killed last year by aspirin overdoses, and warn that this product should never be sold without the knowledgable presence of a licensed pharmacist. This is not to gainsay the thesis that aspirin can be dangerous, but how many people reading this article can remember any lecture from a pharmacist when they went in to buy some aspirin?

It is apparent now that the retail druggist, thanks largely to his shortcomings, is being challenged on many fronts. Not only are supermarkets taking away his proprietary and cosmetic business, but discount houses and mail order companies are beginning to cut into the most lucrative part of this business—prescription drugs. Today, you can take a prescription to any Korvette discount house in New York and fill it at a cost 25 per cent below the charge of most druggists. Mail order houses are also beginning to offer comparable reductions to large users who send in their prescriptions. If the druggist doesn't look out, the A&P next door will soon set up an Ann Page pharmacy department! As a matter of fact, one of the major trends in retailing over the past few years has been the acquisition of drug outlets by chain food stores.

At least one seer has been warning the retail druggist about these trends for at least five years, namely, E. B. Weiss, the perceptive merchandising director of Doyle Dane Bernbach Inc., New York advertising agency. Mr. Weiss read his latest riot act to druggists in April, when he addressed the annual meeting of the American Pharmaceutical Association. The title of Mr. Weiss' talk was: 100 Principal Sins of American Pharmacists and Retail Drug Outlets. The druggist, Mr. Weiss has pointed out a number of times, wants to have his cake and eat it too. He wants to handle *all* the "professional" business—prescriptions, that is—but he also wants to, and does, handle a good deal of "nonprofessional" business—candy, cigarettes, ice cream and what-not. "You do not want any other retailer to combine these two functions," Mr. Weiss told the pharmacists in April. "If you can be professional-unprofessional, does it not follow that another retailer can be unprofessional-professional?"

(*Continued on page 764*)



THE VIGOROUS FRAGRANCE INDUSTRY
Today's Potentials: 3

Continuing our statistical study begun in March, we take a closer look at fragrance, primarily perfume, cologne and toilet water. Although the market for fragrance has gained enormously, the possibilities have scarcely been tapped.

We have discussed the market for fragrance products in several previous issues. (April, 1961, re Potentials for Fragrance Sales). In discussing the market for fragrance products at greater length, we can use this occasion to correct a misprint that appeared in the April issue of this magazine. It would be good if it were true, but 50 million women do not spend $13 billion yearly for fragrance, hair preparations and cosmetics. The real figure, averaging 50 cents a week per person, is $1.3 billion.

Fragrance products have been a vigorously growing part of the entire cosmetic industry and sales have increased substantially during the last decade. The number of companies distributing fragrances has so increased that, today, most major cosmetic companies include a fragrance in their product lines; this business is no longer a highly specialized branch of the cosmetic industry, although the specialized fra-

grance companies are thriving and multiplying.

The growing market for fragrance has paralleled the growing cosmetic market. Fragrance sales are increasing among teenagers and elderly women, who are profiting by the wide spread in increasing income and the new social influences such as greater leisure, in small communities.

A brilliant record in packaging and dispensing has been a special impetus to fragrance sales. Recent developments in the aerosol have certainly added more than 25 million dollars annually to fragrance sales. Fragrance is well advanced in transition from being considered an expensive luxury to being thought of as an everyday utility by American women.

For 25 years, the American market has been a cologne market. Today it is largely a perfume gift market at Christmas, and a cologne market for the rest of the year.

In spite of vigorous sales growth, perfumes, toilet waters and colognes accounted for $140 million in retail sales in 1960, equivalent to 5.6 cents per woman per week. A good case can thus be made that fragrance has the best potential market of any product group in the industry. and is waiting to respond to well-directed sales effort.

A study of numerous surveys, private and by publications, make it clear that most American groups—teenage, over 50 years, factory workers, office workers, and the like—are far from a reasonable use of fragrance. Frequency of use is low in comparison with lipstick, shampoo and several other basic cosmetics. Rarely do as many as 50 per cent of women, whatever their age or economic or social group, use fragrance, except for rare social occasions.

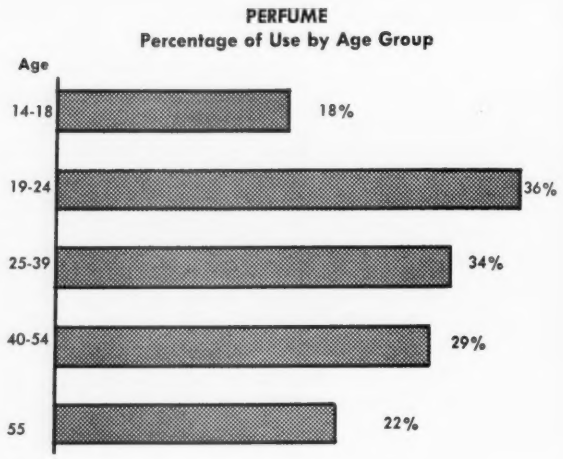
It can be stated with good factual evidence that the fragrance market today, which amounts to more than 100 million dollars at wholesale prices, is reaching only one-half of its potential market, in view of the potential reached by several basic cosmetics.

The primary purpose of this article is to provide a statistical study of fragrance as a part of the cosmetic industry. By fragrance, we mean perfume, cologne and toilet water. When available, figures on sachet and dusting powder are included. but ordinarily fragrance means those three liquid products.

We have been able to classify 106 importers, manufacturers or distributors of fragrance brands, who market 492 different scents in the following categories:

TYPE	NO. OF SCENTS
Perfume	384
Cologne	276
Toilet water	171
Sachet	70
Dusting powder	169

This table, of course, includes some duplication of odors, that is, a single scent in each classification. The total number of different scents in the fragrance field



is 492.

There are, altogether, 106 companies marketing a fragrance. These are mostly located in New York City. Geographical location of fragrance distributors is:

LOCATION	NO. OF COMPANIES
New York	76
Chicago	2
Los Angeles	3
San Francisco	1
All others	24

There is not as much difference in total fragrance sales by states or territories as might be expected. Cologne, particularly, is becoming a standard or almost a utility product. The new public attitude toward fragrance, notably stimulated by that utility dispenser, the aerosol, is making fragrance far less subject to income and environmental factors.

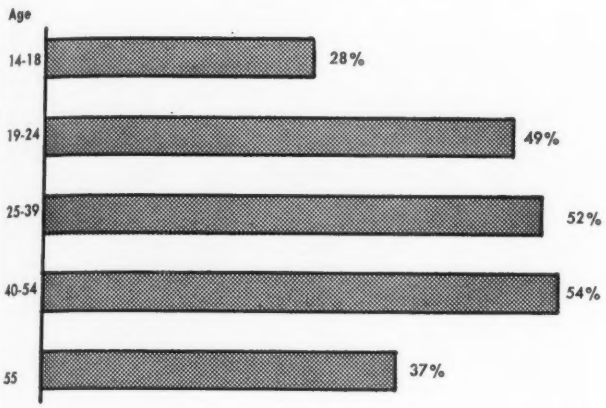
We are fortunate in procuring these territory sales percentages for fragrance. They are certainly useful as a guide for establishing quotas and in planning advertising, although perhaps less so than city sales would be.

These are large territories, based on a standard division used in marketing (for instance, Audit Bureau of Circulations.) Each contains several or more states. For this reason, the territory figure can be very misleading for any given city or the leading stores of that city.

PERCENTAGE OF WOMEN USING FRAGRANCE IN STANDARD MARKET AREAS

	Perfume	Cologne
New England states	38	61
Middle Atlantic states	22	62
East north central states	28	59
West north central states	27	67
South Atlantic states	19	58
East south central states	19	53
West south central states	12	52

COLOGNE
Percentage of Use by Age Group



	Perfume	Cologne
Mountain states	34	58
Pacific Coast states	36	61

As might be expected, income has a substantial influence on fragrance usage with respect to both direct purchases and gifts. Here, in a broad classification, is the percentage of women who use perfume and cologne, by income groups.

PERCENTAGE OF WOMEN USING FRAGRANCE BY INCOME GROUP

	Perfume	Cologne
$3,000 and below	16	32
$3,000 to $8,000	21	46
$8,000 plus	42	61

Perfumes are packaged in a wide variety of sizes, but certain sizes are so predominant that they have become almost standard.

Package Size in Ounces	No. of Scents
1/4	222
1/2	251
1	256
2	137
4	46

Colognes also appear in a wide variety of sizes. Here are the most important ones.

Package Size in Ounces	No. of Scents
2	121
2 1/2	4
3	42
3 1/2	17
4	168
6	47
8	91

Fragrance marketing men have covered just about every possible price range in setting the resale price for their products. This wide range of prices may be interesting to anyone planning a new product. For this reason we are including all practical price ranges.

Price per Ounce	No. of Perfumes	Price per Ounce	No. of Perfumes
$ 4.00	11	18.00	34
6.00	4	18.50	15
8.00	11	20.00	46
9.00	5	22.00	4
10.00	6	22.50	11
12.00	16	23.00	6
12.50	8	23.50	11
14.00	7	25.00	34
15.00	22	26.00	7
16.00	3	27.00	8
17.00	4	27.50	7
17.50	22	30.00 plus	24

An even more complex price spread is to be found among colognes. One may wonder what psychological effect is expected from some of these prices.

COLOGNES

Price	2 oz.	4 oz.	8 oz.
$0.79, 1.00, 1.25	6	4	1
1.50, 1.65, 1.75	7	4	1
2.00	17	7	2
2.25, 2.50, 2.75	37	4	2
3.00	4	7	1
3.50, 3.75	25	36	5
4.00	9	8	
5.00, 5.50	5	26	7
6.00, 6.25, 6.50			
6.75, 7.00, 7.50	8	19	26
8.00		2	2
8.50, 9.00		4	18
9.50			
10.00 and over	1	11	21

The fragrance directory published in *Beauty Fashion* annually now for four years gives a wealth of factual and statistical data covering the fragrance branch of the industry. A good deal of care has been used in assembling this directory, and much of the data included can not be found elsewhere.

Fragrance is an essential element in every cosmetic product and its importance in generating sales and changing consumer preferences cannot be overestimated. A few minutes at any department store cosmetic counter will demonstrate that, overwhelmingly, women smell a new product offered to them before they look at its color or check its texture. Studies have shown time and again that the cosmetic with a more attractive odor will be given attributes of greater effectiveness, even when the basic formula remains unchanged. But fragrance in itself—perfume, toilet water, or cologne—has gained enormous new and general acceptance in the last decade, and no one can

(*Continued on page 840*)

How to Export to Europe

BY ERIC VEJBORG

Produce the best possible product, present it at the best possible price, and learn the special techniques needed, if you want to participate in this substantial market.

I had better start by introducing myself to my readers. My name is Erik Vejborg, and I live in Copenhagen, Denmark. I was educated in the export business in a French perfumery firm and since then I have worked for some years in various other European firms in the same field.

Since 1931, I have had my own business, manufacturing and selling perfumery and toilet articles and articles for beauty shops. We manufacture under license many of the articles that we sell, and an important part of our production is sold to other European countries.

Here in Europe we are visited by high officials and well-known businessmen from the United States, who tell us about their trade and industry. They often say that actually Europe could buy much more than it does from the U. S. A., but a large number of European businessmen have a direct dislike of U. S. products.

This is just not true. Most Europeans have nothing against products from the U. S. and, during recent years, many such products from the beauty preparation, perfumery and toilet article field have been successfully sold in a number of European countries. When I refer to goods, articles or products, I mean precisely those just mentioned.

It is worth pointing out that the consumption of consumer goods in Europe can be expected to increase strongly during the years to come. There are five reasons why the gap in per capita consumption between the U. S. and Europe will continually narrow and make each European country a more interesting market for U. S. export:

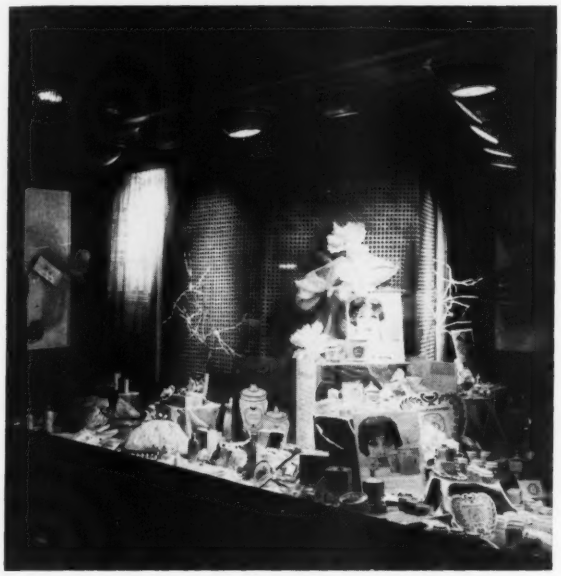
1. An ever-rising living standard;
2. The steady 15-year birth-rate growth;
3. Greater longevity;
4. Daily influence of radio and television advertising on the increasingly prosperous rural communities, who were formerly served solely by a single daily or weekly newspaper;
5. The vast increase in rural automobile ownership, which diminishes the boundary between town and country, thereby making quite a new group of people more accustomed to the consumer habits of towns.

It may be estimated that during the coming ten years, about 20 to 30 million new consumers will turn up, for the above reasons alone.

But also, a favorable trend is taking place in the towns. Older people who used to be small consumers are now being influenced toward larger consumption by the younger generation, and those who are young today will still be good consumers in ten to 20 years. Thus, there are undoubtedly good possibilities for alert U. S. exporters in the beauty field. It is only a question of establishing the right connections.

European importers look with favor on U. S. products, but, as businessmen, they are inclined to buy where the best possible product can be obtained at the best price. In any event, the ultimate consumer price must permit a good turnover and still leave the importer a profit margin equal to that obtained on goods produced in his own country or nearby countries.

Is the present small export volume to Europe due to a dislike on the part of many U. S. firms of supplying goods to the many small European markets? Do many small and medium-sized U. S. firms have insufficient knowledge of export techniques? I believe that the answer is often a lack of knowledge of exporting. I have written to such firms, after having seen ads in U. S. magazines, for information about advertised products that could be sold in Europe. Sometimes I have received no reply, and sometimes simply the catalog that such a firm sends to its wholesalers in the U. S., together with a letter saying that the prices for export are the same as those quoted to U. S. wholesalers. The first letter often contains a definite statement to the effect that any shipment must be paid for in advance, or that it must be shipped against an irrevocable letter of credit. This



The Parfumerie Vejborg, opposite the Air Terminal in Copenhagen, Denmark. The firm manufactures under license many products it sells.

means that the "exporter" has not even taken the trouble to write my bankers, whose name and address are given in my letterhead.

Such action does not promote further cooperation with a firm.

Now let us look at the problems encountered by a U. S. firm wanting to sell in Europe.

Let me say at once that I am not here presenting a thesis on modern international business. I intend, rather, a friendly talk with U. S. fellow-businessmen about the most important problems in connection with export. The U. S. certainly has many export specialists, and a number of small- or medium-sized firms would doubtless be able to obtain larger export sales if they asked such experts for assistance.

Understandably, many small firms do not engage an export expert, because the considerable expense involved does not carry a guarantee of increased export business.

Most of the problems concerning export trade may be solved by the U. S. manufacturer himself. Most important, he should determine whether the articles that he manufactures are suitable for the European market, and whether his prices are such that, with the addition of freight, customs duty and other costs, he could compete with similar articles produced in Europe.

Let us start by looking at your price calculation. First, we must agree that we are now talking about finding an export calculation for a product currently manufactured and sold exclusively in the U. S. Only a few industrial products can be manufactured exclusively for export, and yet be competitive: A good sale on the home market must be the solid foundation for good export sales.

It is very important to point out immediately that calculation for export must tell you the absolutely lowest manufacturing cost of your export article; nevertheless, this information must not be used to justify accepting a smaller percentage of profit in the export market. The market you wish to enter must be examined before an offer is made, and the manufacturer is entitled to the best possible price for his goods. One must know the lowest possible cost in order to decide whether it is worthwhile to try for a foothold in a highly competitive market.

Since I am not dealing here with cost calculations for any particular product, we might divide the calculation into the following parts: (1) development costs, (2) cost of equipment, (3) raw materials and packaging costs, (4) labor, (5) manufacturing overhead, (6) export packing and shipping, and (7) sales overhead.

When analyzing costs, the following rule must be followed: Any cost that applies only to U. S. sales must not be included in export calculation.

Development costs for the product should be fully covered even without export sales, and provision for depreciation should not be made for export calculations. As to patents and trademarks, it is reasonable to make provision for depreciation of these, if trademark and patent protection are obtained outside of the U. S.

When special dies, tools and machinery are required for the manufacture of the article, provisions for depreciation must, as a rule, be covered by domestic sales only.

Raw materials and packaging costs must be fully covered. If a reliable estimate can be obtained for export sales, it may be possible to allow for lower unit costs on expanded purchases and thus reduce prices somewhat to meet competition. This may well mean that a lower manufacturing cost would also be applied to domestic sales.

Exactly the same factors affect labor costs. If the export volume is substantial, better methods of manufacture may be found, and labor costs reduced.

Manufacturing overhead must be covered. If production equipment is not operating at full capacity, overhead will not be increased for export business. To meet competition, therefore, a smaller proportion of manufacturing overhead may be included in the export price than in the home market price.

Normally, since export packing is quoted separately for export customers, only the shipping cost from the factory to the nearest place of shipment need be included in the calculation. When the goods are being sent by parcel post, these costs will be very small indeed.

The U. S. sales costs charged to the product must be reduced to a minimum. Export sales costs should include only the salaries of export agents, along with a small proportion of the total office overhead.

The simplest way to develop a suitable export price is to ask your bookkeeping department to segregate

(Continued on page 808)

THE PERFUMER'S TRIALS AND TRIBULATIONS

BY J. R. ELLIOTT

Don't Shoot the Poor Piano Player—He Is Doing the Best He Can, was a rather facetious sign posted in the old-time saloons of our Wild Western era. If it did not prevent gunplay, it at least focused sympathetic attention on the unfortunate musician.

Change the locale to the present, substitute "perfumer" for "piano player" and the old motto symbolizes the difficulties under which the modern perfumer works. The poor perfumer must face a constant barrage of criticism from all sides. Much of this is due to the failure of others to comprehend the complexity and aggravating nature of his problems.

Unhappily, many regard the perfumer as peculiarly talented, a somewhat eccentric genius with a quasi-magical touch, who can pull fragrances out of a bottle (at almost any price) with the ease of the old-time magician manipulating rabbits from a hat. Others not quite so charitable picture him as an absent-minded individual walking around the room waving a test paper under his nose like a donkey constantly tempted into action by that carrot on the end of a stick. Neither view could be further from the truth.

The perfumer is an average individual with a good memory for odors, coupled with an active imagination, both skills being gained only after a long and arduous apprenticeship. He is not a miracle worker, and makes no pretense of being one. He has a host of artistic and technical problems, some of which can be as exasperatingly tantalizing to him as the unobtainable carrot must be to the poor donkey. Only the few who realize the intricacies of the perfumer's work are able to appreciate him.

The changing status of raw material sources since World War II constitutes one of the perfumer's greatest headaches. That War violently shifted the areas of production, as well as the methods of preparation. Sociological changes in these same areas have increased labor costs, which are reflected in the higher prices of finished raw materials.

Vetyvert, for example, has spread out widely. Vetyvert Haiti, formerly unkown, is now a competitor in the field. Its fragrance is different from the traditional vetyvert Bourbon, yet it has certain qualities which make it more attractive in some fragrances. Geranium production, once limited to the Mediterranean area, has similarly spread out over Africa and parts of tropical Asia. There are many excellent geranium oils, but each has its individuality, and the modern perfume must know how to adapt himself to these special properties. Petitgrain production has expanded in South America and in a few African locations, but, sadly, the quality has not been improved. The perfumer must make himself constantly familiar with all these changes in source and quality, and learn how to compensate for them in formulations.

Highly attractive synthetics have entered the market in competition with products formerly isolated from natural oils. Linalool is now prepared by a direct synthesis, instead of from wood distillation in South American jungles. A new type of linalool now comes from a South American source. Citronellol is being derived from turpentine instead of Asiatic citronellal grass.

These are only a few of the upheavals that have occurred in our industry. Each new product has its own merits, its marketing problems, price, stability, and purity. The present day perfumer must select his sources from among this variety with the objective of a particular odor effect, a special price requirement, or a specific supply problem. His position is almost as complicated as that of the stockbroker when asked to establish a portfolio for a client—he has to be right all the time or his job may be in jeopardy. The responsibility for his decisions rests squarely on his shoulders. He has little or no control over all these changes or technical evolutions. Like the man on the stormy sea in a small boat, he must guide his course with the waves or be swamped by them. All of this creates quite a tension in the individual perfumer.

As if this weren't enough, the perfumer must keep

abreast of the continuing flow of new fragrance chemicals introduced to the market. He must evaluate them, classify them, familiarize himself with their special nuances, and then try to incorporate them in his fragrance designs to create the touch of novelty that makes things sell. Research, once considered only for chemists, is now a "must" for progressive perfumers. It has been said that a project dies when it becomes inflexible. This is certainly true of the perfume field. The moment a perfumer tends to stand still, to take things easy or for granted, he is swept aside by the onrush of progress. All this responsibility creates a subtle pressure on the perfumer which, although not visible even to his closest associates, is very great nonetheless.

The most frustrating part of any perfumer's work is the business of "matching," or "countersampling," as it has been called. This can mean anything from a meticulous copy of a fragrance to a simulation bearing only a casual resemblance. Usually this kind of

COURTESY GIVAUDAN-DELAWANNA INC.

work requires a long preparation and presentation of a series of designs before acceptance, if it is accepted at all. The percentage of successful matches is small at its best. This is not because of the perfumer's lack of talent, as is sometimes charged.

The most frequent cause of difficulty in matchwork is the requirement of too low a raw material cost, which severely limits the choice of raw materials and thus restricts the perfumer's scope. In this situation he must try to reach some kind of compromise with the customer that will permit him either to design a satisfactory product or create a variation to accomodate the special price required. This takes the patience of Job and the skill of a polished diplomat.

Another influential factor is the great difference in personal viewpoints. The perfumer may look at a fragrance in one manner, and the buyer in another. Both are sincere in their opinions. The discrepancy is caused by the human variation in their individual reactions towards odors. It is hard to reconcile these factors, but the perfumer must make a tremendous effort to understand his customer. Situations of this kind call for a direct, tactful meeting between perfumer and client. Unfortunately the policies of many companies still frown upon such positive action and require that the perfumer obtain his information indirectly through the sales department. This makes it tough for the perfumer to assess the customer's specific reaction. In fairness, however, this separation of perfumer from the ultimate customer is beginning to decline. It seems to have stemmed from the European attitude of secrecy of many years ago.

One of the important matching problems encountered is the preparation of copies, for American colognes, of the costly French fragrances. This is a strictly American "me too" operation, as the various firms make efforts to cash in on the trend of the moment, at conventional American prices. This becomes a really tough job because these French fragrances are usually very well made from excellent raw materials with a high basic cost allowance. When the American buyer insists—at an American price—on absolute perfection of detail, such a matching project can quickly become a nightmare to the perfumer and a heavy strain on his ingenuity. I often wonder if this insistence on such extreme perfection is really a benefit to either the buyer or perfumer. For the buyer, such a procedure only causes a long delay in his entry into the competitive market, thus making him a Johnny-come-lately. Business bypasses him while he waits for his perfect copy to come through. As for the perfumer, he has only esthetic satisfaction to compensate for his headaches.

There are sincere requests for matchwork stemming from the presence of too many goodies, that is, high-priced floral absolutes, in a composition. The buyer may feel that this gives a cost out of line with the showmanship of the product, and ask for a competitive match for improvement, as well as a reduction in cost.

However, this type of matchwork is declining; today's economic pressures do not allow the indiscreet use of absolutes. Nevertheless the perfumer is under constant pressure to produce something "cheap, but just as good." Although this is the bane of his existence, it is a necessary part of the business. There is a "floor" of raw material cost on every fragrance type. Below this "floor" there is no room for further price-cutting without sacrificing some part of the fragrance itself. Yet the insistence on price cuts never relaxes. When the perfumer is faced with this situation he is in a bad spot. He has only two choices: take a stand against the price request and tactfully turn down the project; or attempt to prepare a shabby version that will meet the price desired. No matter what he does, he is in for criticism. If he rejects the offer, he runs a strong risk of antagonizing the customer. A frank opinion—even if right—is rarely appreciated. If he makes the shabby version, he risks damaging the customer's business prospects. The perfumer is caught in the middle of a most frus-

(Continued on page 766)

COSMETIC CHEMISTS MEET

Dr. J. T. Davies receiving the SCC Award from Dr. Sophie L. Plechner.

Speakers at the Scientific Section meeting, with the program chairman, left to right: Dr. Jack J. Goodman, The Toni Co.; Dr. Joseph B. Jerome, American Medical Association; Dr. Richard E. Faust, Potter Drug and Chemical Corp.; Herbert Cockeram, Acme Shellac; Morris J. Root, G. Barr and Co., program chairman; A. P. Kent, Colgate-Palmolive Company; Theodore Swenson, Helene Curtis Industries, Inc.; and Dr. Gilbert Leigh, Colgate.

Dr. J. T. Davies, director of the department of chemical engineering at the University of Birmingham, received the Annual Special Award of the Society of Cosmetic Chemists at the Society's semi-annual Scientific Meeting on May 12, 1961, at the Hotel Biltmore in New York City. The award was made in recognition of his work in the field of surface chemistry and was presented by Dr. Sophie L. Plechner, president of the Society.

In his acceptance speech, Dr. Davies briefly described his work on emulsion stability, interfacial phenomena, the dampening of waves and ripples, and the "stickiness" of cells and dispersed particles and drops.

William C. Griffin, associate director of product development, Chemical Division, Atlas Powder Company, acted as eulogist. He was introduced to the meeting by Warren B. Dennis, president-elect of the Society.

The technical meeting, under the chairmanship of Morris J. Root, consisted of six papers, four of which discussed the contribution of other branches of chemistry to the cosmetic industry. The remaining papers were on the subject of instrumentation in the cosmetic laboratory and on cooperation between the Society of Cosmetic Chemists and The Committee on Cosmetics of the American Medical Association.

J. Goodman outlined the over-all position of organic chemistry in the cosmetic industry. The func-

(*Continued on page 810*)

Officers and guests on the dais during the SCC luncheon, left to right: Richard Lehne, Colgate-Palmolive Co.; Robert A. Kramer, Evans Chemetics, SCC secretary; Dr. J. T. Davies, University of Birmingham, award winner; Dr. Sophie L. Plechner, Carter Products, president; William Griffin, Atlas Chemical Industries, eulogist; Warren Dennis, Lady Esther, president-elect; and Lester Conrad, American Cholesterol, the Society's treasurer.

In the last ten years, Mr. Woodward has visited 28 countries to investigate his company's sources of supply as well as the supply areas. Here he discusses current sources, and how changing world conditions have influenced them.

World Sources
OF NATURAL PERFUME RAW MATERIALS

BY EDSON F. WOODWARD S. B. PENICK & COMPANY

Marco Polo may have sought the musk from the Himalayas, even as we do today. Himalayas—"the home of cold"—terracing above the torrid plains of India, home of the Mogul princes. Today, still the Himalayas, but they look down on irrigation schemes, steel mills, carpet factories and brass shops turning out the trinkets for the "five and dime."

Are romance and practicality compatible? The answer doesn't matter because, with raw materials for perfumery, one has to live with the other. How practical are beauty, loveliness, fragrance? And what matter?

The other side of the world has always been a fascinating place, even now that we are concerning ourselves with the other side of the universe. The other side of the world from New York is a spot in the Indian Ocean about 500 miles southwest of Australia. The other side of the world from China, say Peking, is a place just south of Buenos Aires.

Strange? Even stranger is to turn the globe upside down. It's so wet you'll want a towel and rubbers before you attempt to look at it. Looks like a big drink with a large ice cube, Antarctica, plus a point of Patagonia and a tender tip of South Africa thrown in.

Geography plays a considerable role in perfumery. And so does history. A capsule chronology of the last 15 years might startle your recollection:

5/7/45—V-E Day
9/2/45—V-J Day
6/5/47—Marshall Plan speech at Harvard
4/1/48—Berlin blockade begins
12/7/49—Chiang Kai-shek flees to Formosa
6/25/50—Republic of Korea invaded
12/8/50—U. S. bans shipments to Communist China
5/27/51—China arranges "peaceful liberation of Tibet"
5/2/52—First B.O.A.C. Comet Jet passenger flight from London to Johannesburg
7/27/52—Farouk of Egypt abdicates
3/5/53—Stalin dies
7/21/54—France signs cease-fire in Vietnam
4/12/55—Salk vaccine called a success
7/26/56—Egypt seizes Suez Canal
10/4/57—Sputnik I launched
12/10/58—First U. S. Domestic Jet passenger flight from New York to Miami

Back to geography. What do we see and think of when we spin a globe or sniff the wisps of fragrances? Probably the eye will be blind to the familiar form of home, and even of Europe, but will envisage a distant land—perhaps Laos. (See map on pages 736, 737.)

Laos is as good a starting point as any not only to discover what has happened since World War II to affect, change and upset our former sources of raw materials, but also to see where some of the important ones now come from.

Not much comes to us from Laos today except worry, but in neighboring Thailand they produce benzoin, and from Vietnam comes cassia. For a while cassia from that area was unavailable until each collection had acquired its own identity papers and passport from South Vietnam, Suh!

North of Laos are the mountains of Tonkin China. Definitely Communist, so no Tonkin musk from there today.

Southward lie the islands of Indonesia, formerly the Dutch East Indies, today still struggling for nationhood. Beset by inflation and an unrealistic currency policy, becalmed, not by a lack of winds for sails, but by lack of a merchant marine to carry their export produce. So, by dark of night, strange vessels smuggle their goods north to Singapore—citronella, ylang ylang and nutmegs for distillation. Fortunate-

(*Continued on page 738*)

NORTH & CENTRAL AMERICA

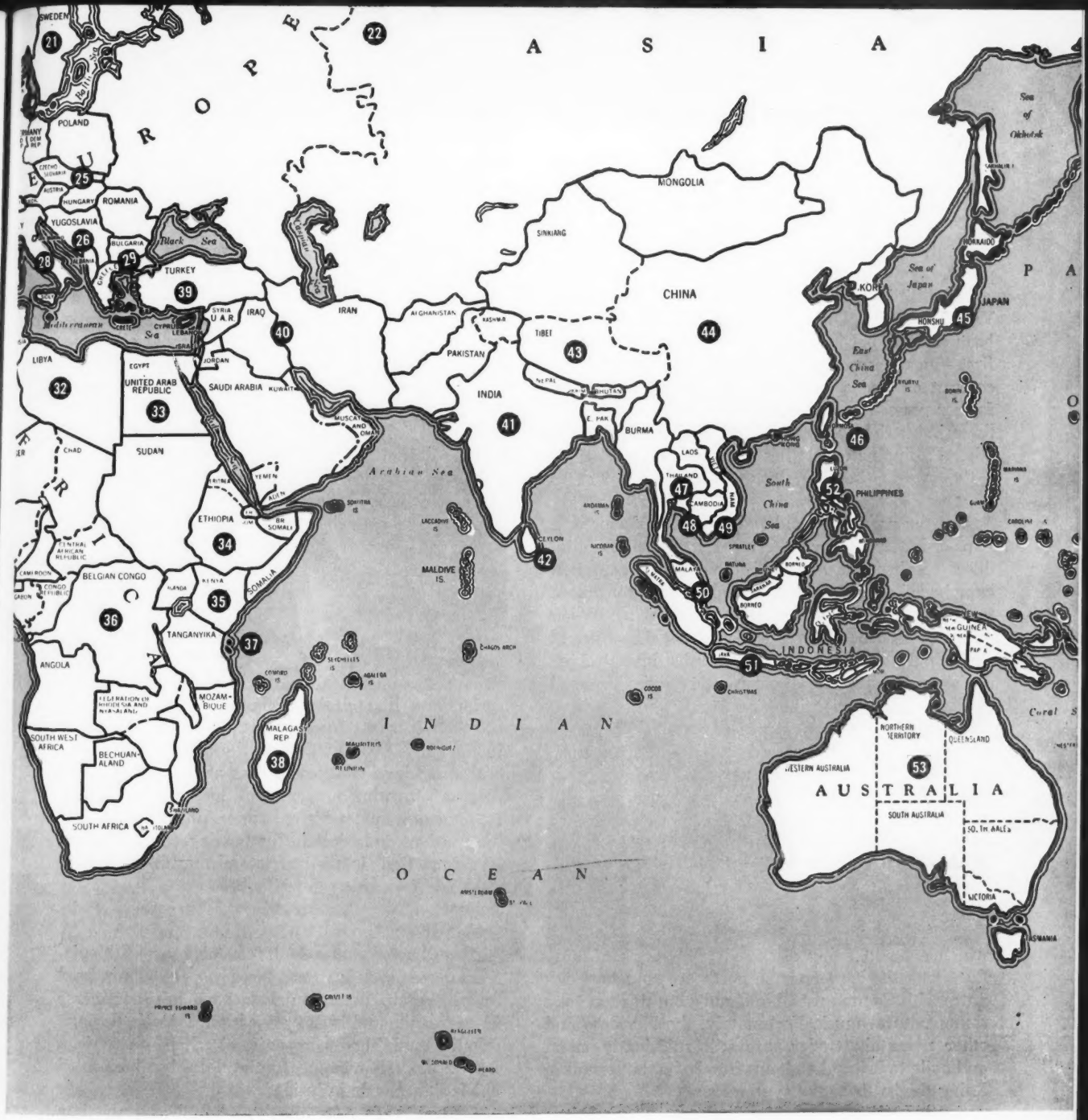
1. **Quebec, Canada.** Cedar Leaf Oil, Beaver Castors
2. **Vermont.** Cedar Leaf Oil
3. **New York State.** Cedar Leaf Oil
4. **Michigan.** Peppermint Oil, Spearmint Oil
5. **Washington State.** Peppermint Oil, Spearmint Oil
6. **Oregon.** Peppermint Oil, Spearmint Oil
7. **California.** Orange Oil, Lemon Oil, Sweet Almond Oil
8. **Arizona.** Orange Oil
9. **Texas.** Cedarwood Oil
10. **North Carolina.** Cedarwood Oil
11. **Florida.** Orange Oil, Grapefruit Oil, Tangerine Oil
12. **Mexico.** Vanilla Beans, Lime Oil
13. **Guatemala.** Citronella Oil, Lemongrass Oil
14. **Honduras.** Styrax
15. **El Salvador.** Balsam Peru
16. **Jamaica.** Orange Oil
17. **Haiti.** Orange Oil, Vetivert Oil
18. **Dominica.** Bay Oil, Lime Oil

SOUTH AMERICA

19. **Brazil.** Bois de Rose Oil, Peppermint Oil, Balsam Copaiba, Sassafras Oil, Balsam Tolu, Menthol
20. **Paraguay.** Petitgrain Oil

EUROPE

21. **Sweden.** Pine Oil
22. **Union of Soviet Socialist Republics.** Pine Needle Oil, Coriander, Sage
23. **Holland.** Caraway Oil
24. **France.** Geranium, Jasmin, Lavender, Neroli, Orange Flower Oil, Rose Oil
25. **Czechoslovakia.** Spearmint
26. **Yugoslavia.** Oak Moss
27. **Spain.** Rosemary Oil, Orange Oil,



Almond Oil, Spike Lavender, Eucalyptus, Thyme Oil

28. **Italy.** Orange Oil, Lemon Oil, Bergamot Oil, Mandarin Oil, Orris
29. **Bulgaria.** Rose Oil

AFRICA

30. **Morocco.** Oak Moss
31. **Algeria.** Geranium Oil, Oak Moss
32. **Libya.** Civet
33. **Egypt.** Henna
34. **Ethiopia.** Civet, Myrrh, Olibanum
35. **Kenya.** Geranium Oil
36. **Congo.** Eucalyptus Oil, Geranium Oil
37. **Zanzibar.** Cloves
38. **Madagascar** (Reunion or Bourbon Islands). Geranium Oil, Vanilla, Ylang Ylang, Vetivert Oil, Clove Leaf, Clove Spice

ASIA

39. **Turkey.** Styrax
40. **Iran & Iraq.** Tragacanth, Olibanum, Galbanum
41. **India.** Sandalwood Oil, Lemongrass Oil, Palmarosa Oil, Henna
42. **Ceylon.** Coconut Oil, Cinnamon Oil, Citronella Oil
43. **Tibet.** Musk
44. **China.** Cassia Oil
45. **Japan.** Menthol, Peppermint Oil, Camphor Oil
46. **Formosa.** Citronella, Menthol, Camphor and Camphor Oils
47. **Thialand.** Benzoin
48. **Cambodia.** Cassia Oil
49. **Vietnam.** Cassia
50. **Malaya.** Ylang Ylang Oil
51. **Java.** Citronella Oil, Cananga Oil, Patchouli Oil, Nutmegs, Ylang Ylang
52. **Philippines.** Ylang Ylang Oil
53. **Australia.** Sandalwood Oil, Eucalyptus Oil

ly, some of the patchouly oil is exported directly from Java to New York.

Way down under is Australia, still sending up sandalwood and eucalyptus oils. No trouble there, but the Sunday paper had a big article recently on the development of Australian petroleum resources. As a result, competition for available labor could boost prices.

The Phillippines took a well-known clobbering in World War II. The major industries have largely been revived, but in a new republic first things come first—sugar, coconut and the rest. Today we import coconut oil and ylang ylang in quantity from our former possession, and here we are fortunate in that these industries could readily be revived. Many another Philippine export has yet to be revived.

Up the coast from old Indo-China is Formosa, a guns-or-butter country. Formosa is the major producer of citronella and a big producer of camphor, camphor oils and menthol. Camphor is a government monopoly and the others might as well be. When guns are needed, the produce is marketed and priced accordingly. If there is no big bombardment scheduled for Wednesday, there's little anxiety to sell essences on the preceding Tuesday.

Japan is a major producer of menthol, Japanese peppermint oil, camphor and camphor oils. Her marketing activities are in the nature of realistic steps to act on or counteract the camphor prices of Formosa and, to a lesser extent, the price of synthetic camphor and the competition from menthol in Brazil.

Westward across Asia lies India, where produce from the northern part of the country is still subjected to two influences. Costus root comes from Kashmir, a state subject to Indo-Pakistan disputes, which are still being discussed relatively amicably. But along the border to the north are boundary disputes with Communist China, and from this territory comes natural musk. Fortunately, the Nepalese and other mountain traders are still sufficiently adept and agile to bring the glands into India, but they are losing the battle to the synthetics.

South India—Mysore and Travancore. One brings to mind sandalwood, palaces and elephants. The other state, Travancore, today typifies a dwindling effort at communism. Since the farmers of South India are a little too practical to be swayed by their partially educated sons, we still receive relatively uninterrupted supplies of citronella, lemongrass (champion producer) and palmarosa.

Just across the waters a few miles to the southeast is Ceylon, an island of unique and incomparable beauty. Tea comes first, then coconuts, but also important are cinnamon and citronella. The citronella of Ceylon is the perfumer's grade, whereas the citronellas of other origins are for lesser compounds and synthetics.

Asia Minor doesn't send us much today in perfumery materials. Turkish styrax still comes to us through government auctions. Galbanum arrives straight from the hills of Iran, or via France.

Bulgarian rose rocketed for a time, met competition from synthetics and the Turkish oil, and came back down.

Siberian pine needle oil once was sold by Russian commercial agents in New York. The cold war switched the trading to London. Now business is back at the old stand, although it is no less erratic than before. And along with pine needle oil come coriander and a few others, including clary sage.

Dalmatian sage from Yugoslavia comes in regularly. There was a time when the young communism of Yugoslavia had five "exclusive" commercial representatives in New York for the three "exclusive" producers back home. A most puzzling circumstance. Now all is nicely organized.

Western Europe has in large measure gone back to her pre-war ways. Grasse was hardly touched by the war, and Frenchmen saved much more from the holocaust than the Third Republic and the Place Pigalle.

Across the Mediterranean is Africa where progressive Moroccan farmers—Arab, French and German—are going into rose, oakmoss, geranium and coriander. Although the sands of the Sahara are close by, the salubrious Mediterranean climate, especially in the hills, is well suited to the production of several oils. Libya ranks second as a collector of civet. Algeria is turning out some oils, too, and, incidentally, some quite palatable red wine. All these areas feel for freedom and react to the passing of colonialism. You can't fight in the streets and the hills and do a good job of watching the stills, too.

Over east by the Gulf of Aden are Ethiopia, Somaliland and Eritrea—for civet, olibanum and myrrh. Again the colonialists have left, commerce is peaceable and still carried on largely through colonial-established companies. Perhaps there is a British or Italian name on the door, but burnoosed chiefs sit at the desks inside.

Central Africa. On the bookshelf beside me is a placid pictorial guide to the Kivu, which I bought while there for my daughter. There's hardly a word in it of the Kikuyu and the Mau Mau, or of the warring tribes in the neighboring Congo. I remember well a conversation with a colon in the Congo near Stanleyville in 1954, seven short years ago. This plantation owner asked, "How long do you think we will be here as we are today—20, 30, 50 years?" A well-phrased and ill-put question. Many of the colons have recently been evacuated, only to return, but with a limited view of the future. Somehow production goes on, of geranium in the Kivu, cedarwood in Kenya, and eucalyptus, coconut and palm oils in the Congo. But "fire sales" are commonplace there, be-

(*Continued on page 765*)

TGA ANNUAL CONVENTION 1961

Robert C. Ring (right), sales manager, Duveen Soap Corp., and president of Cibs, presenting the 1961 Cibs Award to Dr. Martin M. Rieger (left) and Dr. Stanley Brechner of Warner-Lambert Pharmaceutical Company for their paper, Studies on the Adsorption of a Simple Dyestuff by Hair, during the luncheon of the Scientific Section of the AGA at the Waldorf.

At the 26th Annual Convention of the Toilet Goods Association on May 9 at the Waldorf-Astoria Hotel in New York City, new directors were elected to the board for three-year terms: Joseph A. Danilek, Richard L. Gelb, and Richard J. Livingston. Re-elected directors were Charles W. Hancock, John E. Hardy, J. B. Nethercutt, and Richard Salomon. A new director representing associate membership and elected for one year was George E. Davidson, and Daniel H. Reheis was re-elected for one year. Officers re-elected for one year were Jean Despres, president; Oscar Kolin, J. I. Poses, George L. Schultz, and D. H. Williams, vice-presidents; Philip C. Smith, treasurer; and William F. Denney, Jr., secretary.

On the day preceding the convention, winners of trophies at the eleventh annual Toilet Goods Industry Golf Tournament at the Winged Foot Club in Mamaroneck were: George E. Davidson, Cecil Smith Trophy; A. F. Lindsay, Jr., B. M. Douglas Trophy; James O'Neill, B. E. Levy Trophy; Robert C. Ring, Maple Leaf Trophy.

At the first morning session of the convention, Jim Moran, head of Jim Moran Associates, pointed out that, in the fragrance business, the nose for publicity should be as important as the nose for fragrance. He advocated the application of imagination and excitement in creating an industry image.

TGA president Jean Despres delivered his address at luncheon on the first day. He noted that industry sales in 1960 exceeded $1.8 billion at retail and showed a greater increase over 1959 than the gross national product; he expects sales to reach $2 billion in a very short time. The Association has set up a color testing program involving a three-quarter million dollar trust fund, to supervise testing for the entire industry. A law requiring pre-testing of new cosmetics before marketing, and greater vigor by the Federal Trade Commission, can be expected. Mr. Despres believes that the present outlook for additional price maintenance legislation is not good.

Jean Despres, TGA president, addressing the group during luncheon. He announced the TGA color testing program set up for the entire industry.

In the afternoon session, "Packaging Profiles of the Future," Mrs. Charlotte Montgomery of *Good Housekeeping* discussed the consumer's point of view. Consumers want informative labeling, believable TV commercials, and, according to Mrs. Montgomery, "they love aerosols, but complain about the valve that gives up and the difficulty of guessing how much is left; they want more and more products in unbreakable plastic bottles, tubes and jars. They'd like your address on packages; they wish nail polish wouldn't get thick, that caps wouldn't stick, that brushes reached the bottom." Most of all, women want to be educated in how to use cosmetics and make-up, Mrs. Montgomery reported.

As a member of the panel, A. H. Lawrence, Jr., of duPont predicted the development of a foam dentifrice and the use of a piston-type package, improve-

From left to right: D. H. Williams, Sterling Drug, TGA vice-president; Agnes Howard, executive secretary-treasurer, Toilet Goods Manufacturers Association of Canada, and executive secretary, Proprietary Association of Canada; Philip C. Smith, Yardley, TGA treasurer; Jean Despres, Coty, TGA president; S. L. Mayham, TGA executive vice-president; Marie V. Carroll, executive secretary of the California Cosmetic Association, and William F. Denney, Jr., secretary of the Toilet Goods Association.

ments in valves and propellant systems to produce soft sprays with drier properties and smaller particle size, and the rapid growth of shampoos, personal deodorants, and hand and suntan lotions.

Ernst Ehrman of Ehrman and Reiner, Inc., discussed the function of the package designer, who must be a planner, must understand the principles of marketing and merchandising, must be able to work with a budget and know production and reproduction methods. He must anticipate the need and taste of the consumer and must be a creative artist. His over-all approach is to help clients make money.

John B. Miller, manager of the merchandising department of Cunningham & Walsh, Inc., described the plan by which account management executives, art directors, copywriters, and other supervisory people spend time actually in retail selling in order to learn about specific problems at first hand. He strongly recommends that the plan be utilized for trustworthy information and leads about merchandising methods and market research.

In the next day session, Raymond G. Fisher of Continental Can Co., Inc., stated that business is now on the rise. He expects the current period of business expansion to be a long one. The demand to replace obsolescent hard goods can be expected to rise substantially; industry has been able to adjust to higher interest rates; money for expansion will be more freely available; and increased government expenditures can be expected. "Certainly this implies an excellent period ahead for the toilet goods industry. There will be more money in the hands of more people. And recent history indicates that the public will spend a substantial share of this extra income for

TGA executive secretary, Kay Fitzpatrick and Steve Mayham, executive v.p.

personal care products. Other social trends also favor the industry, notably the growing proportion of white collar workers as opposed to blue collar workers, and the increasing proportion of women who hold jobs outside the home. Both of these groups, white collar workers and working women, appear to spend more on the average for personal care than other social groups spend. I think that the combination of all these economic and social factors implies a gain of better than 5.5 per cent in toilet goods sales this year, and faster growth of 8 to 9 per cent a year in 1962 and 1963."

John L. Kelsey, Eastman Dillon, Union Securities & Co., discussed some of the factors in deciding whether a cosmetic company should offer its shares to the public. Current public interest is most impor-

(*Continued on page 818*)

At luncheon, left to right: Donald Dean, Shulton, chairman, Scientific Section; Dr. Sophie Plechner, SCC President; Dr. Martin Rieger, Cibs Award winner; Robert Ring, Cibs president; Jean Despres, TGA president; Dr. Herbert Heinrich, Coty, retiring chairman of the Scientific Section; Patricia Miller, Bristol-Myers Products Division, chairman-elect of the Section; and Dr. Stanley Brechner, Warner Lambert, Cibs Award winner.

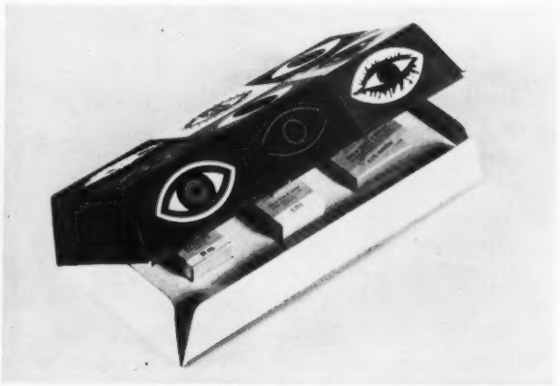
1961 SET-UP BOX WINNERS

Brighter color combinations, acetate and transparent boxes, and the use of more photography were the outstanding characteristics of this year's entries in the National Paper Box Manufacturers Association Box Competition. The boxes were judged on their ability to sell merchandise and to display the goods packaged, as well as for ingenuity of construction, surface design and execution, and transparency. Several were cited for their re-use value.

Other awards in the drug and cosmetic field, which are not shown, were: soap and toiletries box—Excellence in Soap Boxes—by Wallace Paper Box Corporation, for Stanley Home Products, Inc., designed by Pamela Adams; "Treasure Chest" cosmetics box—excellence in Superiority of Construction—by the Chaspec Manufacturing Company, for Max Factor & Company; Love-Pat compact box—Excellence in Superiority of Construction Boxes—by F. N. Burt Company, Inc., for Revlon, Inc.; lipstick counter display box—Excellence for Best Display box—by Wallace Paper Box Corporation, for Northam Warren-Peggy Sage; Incanto perfume purse dispenser box—Excellence in Rectangular Cosmetic Boxes—by the Manufacturers Box Company, Inc., for Chesebrough-Pond's, Inc.; miniature perfumes box—Excellence in Transparent Boxes—by F. N. Burt Company, for Elizabeth Arden Sales Corporation; "Beauty Dividend" box—Excellence in Transparent Boxes—by Samuel Barnett Company, for Frances Denney, designed by Charles F. Brooks.

Cologne box—First Award in Round Cosmetic Boxes; Excellence Award in Best Surface Design—by F. N. Burt Company, Inc., for Dunhill Tailors, designed by Jay Doblin, duplicates bottle's design in box with pinstripe motif. Top and bottom of box are trimmed in black and gold.

Additional winners are shown on page 753.



Drug box—First Award in Mailing Boxes; Excellence Award in Best Surface Design—by C. Albert Sauter Company, Inc., for Merck Sharp & Dohme, designed by Andrew Schmith, reveals the area of application for the sample medical contents by repetition of the eye on the box lid.

"Romantic Mood" cosmetic box—First Award in Rectangular Cosmetic Boxes—by Walter J. Jamieson Corporation, for Avon Products, Inc., designed by Max Rogers, has a lid in pale blue with embossed lace which fits on a white base. Blue satin platform holds containers.

DAVIS ACETATE aids beauty aids!

Cosmetic packaging must be as careful of its beauty as its users are!

And Hazel Bishop, Inc. protects its attractive full-color card by folding over and heat sealing a blister of DAVIS ACETATE . . . keeps it as immaculate, crisp and colorful as the day it was printed!

The smart shade of the nail polish, too, comes through the sparkling bubble to snare the shopper's eye!

The vacuum formed blister packages were produced by PLASTIC ENTERPRISES, COLLEGE POINT, N. Y.

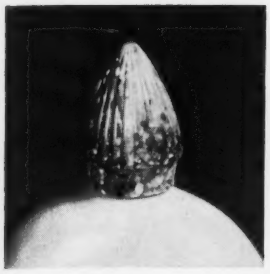
Davis extruded acetate sheets, rolls and film come in all gauges — transparent, translucent, or opaque — and are ideal for vacuum forming.

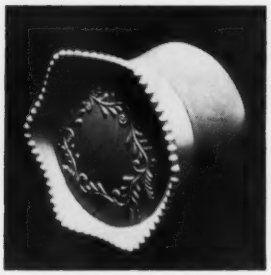
We have been supplying the packaging industry with plastic materials for over 40 years, and we would welcome the opportunity to help packagers with their problems. Let us send you a brochure on our facilities and the wide range of plastics we produce, together with their properties and applications.

PRODUCT BY HAZEL BISHOP, INC. • BLISTERS BY PLASTIC ENTERPRISES, COLLEGE POINT, N. Y. • EXTRUDED ACETATE BY JOSEPH DAVIS PLASTICS COMPANY

JODA

Joseph Davis
PLASTICS COMPANY
430 Schuyler Avenue, Kearny, N. J.
Phone: WYman 1-0980 New York: BArclay 7-6421





From left to right: a mottled blue, gold and white cap for Avon by Mack Molding Co., of urea, showing unusual effect of mixing urea with gold powder at small extra cost; cream sachet container of polypropylene, the only plastic that could produce this white beading effect, on blue cap with heavily embossed design on the top, for Avon by

Formold Plastics; sun-tan lotion dispensing container by Owens-Illinois of polyethylene, the white cap having a self-sealing dispenser matching the bottle's blue, with an integral spout: Avon's shampoo with polystyrene cap by Mack showing effects of crystal styrene, flutes and facets to catch light, and colored liner backing for show-through design.

DECORATING PLASTICS

Designers with imagination
can get unique effects with plastics.

Not only can plastics be decorated in several ways, they can also be intrinsically decorative. In designing a plastic package, many decorative effects can be produced in the actual molding, making additional embellishments unnecessary, with the exception of labeling.

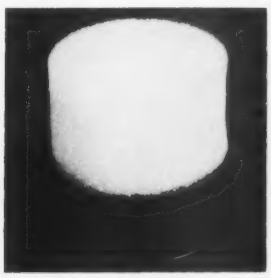
A wide range of colors is available, and the possible shapes seem almost limitless. Plastics can look like plastics, or they can simulate other materials—glass, metals, mother-of-pearl, or even wood or leather depending on the plastic material used. Any of these intrinsic decorative possibilities combined with careful finishing and attractive labeling can produce unique and beautiful packages.

Although it is true that one can both decorate plastics and decorate with them, the cost of special molds for particular effects may be prohibitive for a short run of a product: plastics molds require the best materials as well as precision in their making, since they must resist high pressures while maintaining their exact dimensions. Because a mold can cost as much as $15,000, molds must be amortized over a fairly long run. Designers usually use stock molds for short runs, depending for unusual effects on color, labels and caps.

Injection molds, which can be more detailed and complex than compression molds, are generally also more expensive than compression molds. But this is balanced by a generally lower over-all cost for manufacturing an injection-molded item, provided the run is sufficiently long. One reason for lower costs is the shorter molding cycle of injection molds, which means lower labor costs. Also, because the materials used in injection molding are thermoplastics, any cull that is free from dust or material of another color or type can be re-used.

(*Continued on page 840*)

From left to right: Yardley of London's roll-on deodorant container with polystyrene cap showing the soft rose and white mottled effect possible with injection molding; Revlon's roll-on deodorant for men by Mack Molding, with red acrylonitrile cap showing the hot-stamped, gold-leaf embossing on the top of the cap; Avon's cream sachet container by Mack

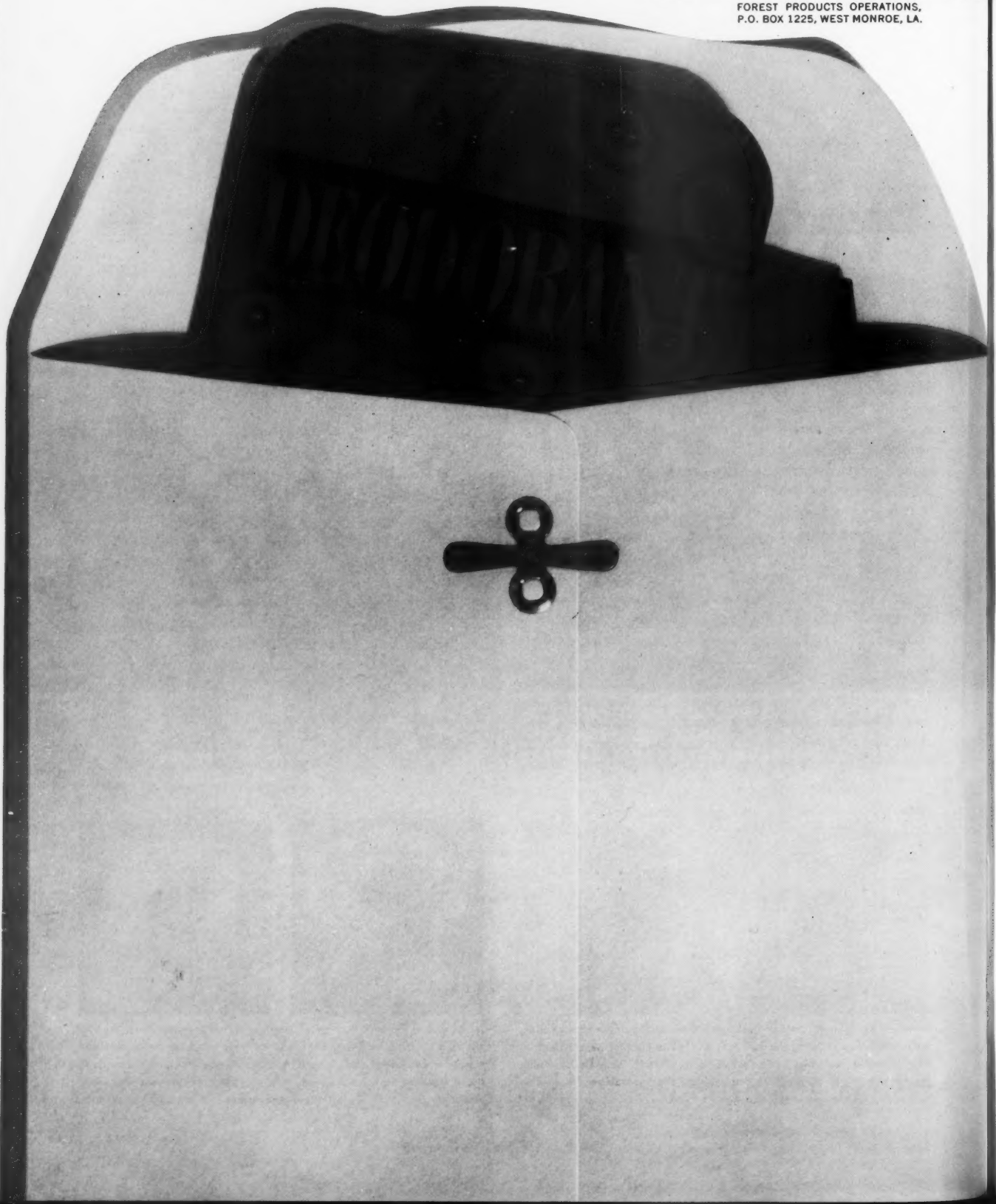


Molding and Formold Plastics, of mottled yellow polypropylene, the cap showing delicate mottling, hot-stamped cover label, secondary molded stone for additional design motif; and Glamorene Inc.'s oven cleaner by Mack Molding Co. of polystyrene and polyurethane, the cap showing a two-piece construction, plastic sponge cemented on top as an applicator.

Send us your carton (even if you love it). If we can't beat it on design, printing and strength, at no increase in cost, our name isn't Olin

PACKAGING DIVISION

FOREST PRODUCTS OPERATIONS,
P.O. BOX 1225, WEST MONROE, LA.



Packaging and Selling

We have commented here several times on the perfume panel. Now we have a new report to make on a reorganization of one of the few panels, so far as we have been able to hear in talking widely to different people in the trade, that has any record of partial success.

The multiple panel of this company begins with a group of factory executives primarily concerned with new product development. It has limited powers—an authority to eliminate only the odors that are obviously unsuitable for the product or the company. The members may eliminate an unsuitable supplier. Their authority is limited and their function is not to eliminate anything that might have even a small chance of acceptance.

After passing this panel, a product moves on to an office panel conducted by an individual who has specialized for several years in the field, as well as in administrative work in expediting all submitted selections to a final conclusion and an acceptance of one odor. The office panel consists of four people, plus the chairman—two carefully selected and trained people within the office and two people also carefully selected from outside the organization. This second panel has quite a broad range of authority to eliminate products.

Survivors of this test then go to a much broader panel of field representatives. There is some selection of these representatives but, by and large, they represent geographical areas, substantial service with the company, and general experience in selling cosmetics and perfume. This panel makes specific choices, which are charted and studied in great detail.

The chart of this third panel, plus all reports and conclusions of the other panels and remaining samples, including the top one recommended as shown by the chart, then goes to two top executives who make the final choice, based upon these reports.

A new refinement is being introduced into this panel. It has been the subject of discussion in the company for some time that panel members are influenced by the label on the bottle. This has been a completely honest influence. Nevertheless, it has been felt that decisions have been affected in a way the company wishes to avoid.

For instance, this company has a record of two or three suppliers who have been quite consistent in winning panel preferences. Some people in the company think that these companies have attained a degree of respect that automatically gives them an edge in an appraisal of their odors.

Therefore, from now on, beginning with the first panel, all odors submitted will be secretly keyed, so that nobody giving a panel opinion will have any knowledge of the source.

All the economists seem to agree that consumer spending is either going to put this country on the road to another boom or will, at the very least, hold business to a mild recession.

The way consumers spend their dollars today is very different from the expenditure of just ten years ago. Therein lies a story increasingly important to a great many kinds of business.

You read a great deal today about how the American economy is becoming a "service economy" as opposed to a "goods economy."

This is not quite true. What is true is that, during the last decade, the service industries have been taking more and more money away from the goods industry.

This has been partly at the expense of our industry and that of other soft goods, but more especially of durable goods.

From 1949 to 1960 the price of consumer services rose by 43.5 per cent. During this time the cost of goods purchased by consumers advanced 17.3 per cent, which is less than the comprehensive wholesale commodity price index.

Last year consumers spent only 55.5 per cent of disposable income for goods, as compared with an average of 65 per cent during 1947-1949.

The thing to look out for here is that, if consumer income falls off, the amount of money spent for services is likely to rise to a new high, at the expense of consumer packaged goods.

Word has been circulating through the trade for a few months now that the pharmaceutical industry would provide the next big sales opportunity for aerosols. We have listened to these rumors and reports, but, to be perfectly frank, we have found it difficult to work up any real enthusiasm, simply because on a superficial basis, we could not quite see where the number of companies were coming from, the variety of products and any substantial volume of business. This is because we have been thinking of aerosol in terms of external or topical application.

Now we hear from a source that we hold in respect that research is practically completed, which will indeed open up substantial opportunities in this industry. Particularly, this will be true for the field

of animal health.

One thing that intrigues us in this new development is the mystic report of a dispensable valve, that is, a product for animal health packaged for aerosol dispensing that will have a removable valve. It is to be removed after each application or dosage, and replaced with a new valve free from contamination. The market for this product impresses us as being very substantial.

We hear in this same field that work is at the point of success for the proper dispensing of a number of powders by aerosol, and that these will have application in the pharmaceutical industry.

Market analysts in Wall Street as well as market analysts on Madison Avenue have at least one thing in common: when they get through with all their analytical work they still have to take a very broad jump in guess work.

Here is a statement by a leading Wall Street analyst that might apply elsewhere: "The batting average of a security analyst should be higher than the non-analyst's. Otherwise, maybe he should be a non-analyst."

The sky seems to be the limit in the plastic industry. Not only are we finding available a multitude of different plastics with a multitude of different uses and applications, but the ability to use these different plastic materials is stepping up in a startling way.

For instance, we read that a 2,500-ton injection molding machine, capable of making plastic bathtubs and products using up to 57 pounds of resin per shot, is being used in Italy.

This company has developed a huge blow-molding machine for the production of refrigerator door liners and items of similar size from polyvinyl chloride and polystyrene.

The development of regional editions in our leading consumer magazines is undoubtedly setting some kind of an advertising trend.

It is probable that these regional sections of national magazines are a response to an increasing demand from national advertisers for ways to advertise in accord with their national distribution.

As many continued surveys have shown—for instance that by the Scripps-Howard newspaper group and that by the Consolidated Newspaper Research in 21 Markets—hardly any manufacturer, big or small, has an even distribution. Almost everyone has very good territories, with large volume sales and density of distribution, together with other territories substantially weaker and, therefore, requiring a smaller expenditure of advertising.

Undoubtedly, another reason is the increase in newspaper advertising and the increase in spot radio and television.

The Saturday Evening Post started a regional plan in 1959. According to reports, advertising last year accounted for more than 16 per cent of the Post's total pages. Sectional advertising in *Life* is said to run around 8 per cent.

Some of the other magazines with regional plans are *The Header's Digest*, *Good Housekeeping*, *Time*, *Look*, and *Sports Illustrated*.

Private brands owned by retailers are apparently becoming a major problem in food stores.

Anybody shopping in most of the big supermarket chains must have been impressed with the way each catagory of foods has acquired a private-label package of the retailer.

A number of leading food manufacturers have had quite a bit to say about the private label during recent months. Now, Neil McElroy, Procter & Gamble's board chairman, in commenting in the wide range of grocery products packaged under private-label names, poses four specific questions for the retail trade.

"(1) Are your private brands profitable in comparison with the advertised brands in the same fields?

"(2) What are the long-range implications of private-brand growth on the vitality of the product research effort which should support the products you sell?

"(3) What, if any, price does a chain pay in its over-all reputation in the eyes of its buying public as a result of what I believe is an inevitable lag in quality up-to-dateness in private brands?

"(4) Has an increasing emphasis on private brands made the grocery chain vulnerable to new types of grocery retailing competition?"

Mr. McElroy does not answer any of these questions himself. He simply poses a marketing problem.

What bothers us, however, is another question, which could be asked of Mr. McElroy and some of the other big food people who are increasingly concerned about retail private labels, namely: Why should retailers have any concern about reaching equality in quality with the best national brands, or why should they think they are hampering research when the private label divisions of these same big manufacturers assures them they are getting the best possible quality?

This department has always been keenly interested in any sort of research or product development that would open the way to expansion for the drug industry beyond its routine growth in human health or that of plants and animals. We have always believed that, wherever a microbe, a virus or a fungus creates an economic problem or, in fact, a problem of any kind that should be corrected, this industry has the experience, the technical knowledge, and the research facilities to meet it.

New opportunities pop up every once in a while. One was recently mentioned in *The Wall Street Journal:*

"A compound which has helped to curb 'drug re-

sistent' germs in hospitals is being incorporated into such products as toys, shoes, clothing and paint. Researchers envision further application of the germicide in telephones, books, furniture, even money."

We are always happy to discover a new application of one of this industry's products, especially an application that shows originality and opens a new market, no matter how small.

One such has recently come from a western company whose name we have not discovered, which claims that 40 per cent of the nation's 22 million dogs have halitosis. This company has introduced Happy Breath for the oral hygiene of man's best friend.

Twenty-two million dogs could hardly be called a fringe industry. Moreover, in our experience with quite a few beloved dogs, there have been times when even the best of them have had a somewhat doggy odor. Even the fondest owner would be just as glad to eliminate it.

We managed recently to pick up a piece of vital information from a French magazine. We do not know just how this information can be used, but we are very sure that it will lead to something or other. Here is the word-for-word story of this astounding discovery:

"It is reported that a chinchilla breeder has succeeded in preventing the males from being killed by the females. The males are perfumed with a lotion containing certain spices the smell of which seems to be efficient to prevent the males from being murdered by their wives."

This certainly shows how valuable the international exchange of scientific discoveries can be. Somewhere among our readers this discovery is bound to be helpful.

The ten largest food chains, which account for 27 per cent of total retail sales, also handle about 23 per cent of total volume for frozen fruits, juices, and vegetables.

Nearly 57 per cent of the volume sold by chains was sold under private label. Other outlets—small chains, independents—handled 82.7 per cent of their volume under packer brands. This is part of an FTC study.

The cosmetic industry provides a fabulous collection of case histories in packaging to illustrate the infinite variety of ways in which a package can increase sales.

We remember how we were fascinated many years ago, when one of the leading toothpaste manufacturers deliberately increased the size of the orifice in the collapsible tube, thus slightly increasing the thickness of the toothpaste ribbon on the tooth brush. This was a deliberate plan to increase the frequency of purchase of this product and, as we recall, it worked with perfect satisfaction for this company. Competitors very quickly followed suit.

The cosmetic industry has available a variety of physical forms for many of its products. Sometimes these are dictated by the development of a new product, sometimes by the development of a new package.

For instance, shampoos have ranged from powders to liquids of various viscosities to creams, all the way up to Lustre Creme in a jar.

Shampoos, a field with a wide variety of physical forms and different methods of packaging, provides many interesting case histories of packages as well as of product success.

Another and even more interesting product from this viewpoint is the deodorant. This has been a dynamically growing market over the last 15 years, stimulated specifically and repeatedly by an intriguing variety of packages.

There was a time 20 years ago when the deodorants for sale were packaged in a strictly utilitarian way without much consideration for customer convenience in application.

Then, along came a series of interesting packages whereby the customer's application of the deodorant took precedence over the sale story on the product itself.

One of these early forms was the 5-Day Arm Pad. Perhaps the most interesting and the most successful in demonstrating what a convenient package for application will do was Stopette, one of the first, if not the first, cosmetic to use the plastic bottle. Wihin a few years sales had passed the $5 million mark.

Fully as dramatic and fully as effective in pleasing the customer was the advent of the roll-on package for deodorants. Here again, indisputably, the package picked up the ball for sales and carried the product to substantial leadership in a relatively short space of time.

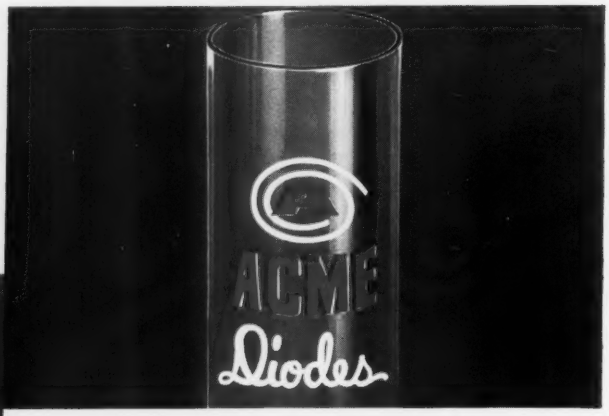
Perfumes have gone through a series of package changes in which exactly the same product has found substantial sales stimulation from a package change.

Among such innovations, which have brought substantial new volume to the industry at least briefly, are the solid cologne stick, the miniature bottle set, such as the famous Ciro package, the 2-ounce cologne, the purse flacon, and now, as the winner of them all, the aerosol package.

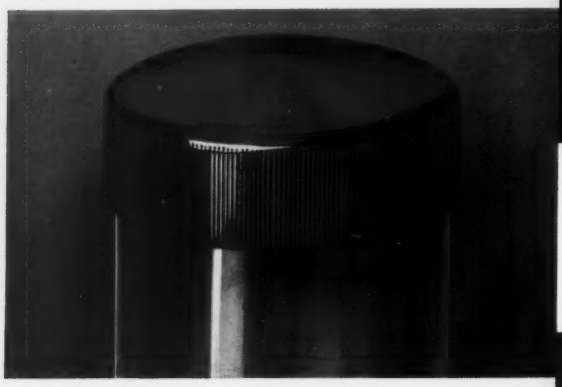
Aerosol, with its fascinating ease of application, has brought a new dimension to many products of this industry but, above all others, to the perfume industry. Here is something that women have no inclination to hoard, that dreadful inhibiting factor which the perfume industry has always faced. On the contrary, aerosol has brought a new element into the perfume business—in the hands of women the aerosol is a constant stimulant to use fragrance.

It would be hard to estimate just what volume of new, additional business this particular package has brought to the industry. It can hardly be denied that it runs into a substantial number of millions of dollars.

LERMER Adds Important NEW Features to *flexible acetate containers*



• Clear, flexible extruded containers • Full width straight opening • No turned-in top • Easy to fill and empty • Streamlined • Seamless • Can be printed up to 4 colors



• Molded polypropylene closures for uniform fit • Knurled for easy grip • Engineered to hold tight—Easy to remove and replace • Closures available in assorted colors • May be hot stamped in contrasting color with trade mark or other desired copy

• Reinforced molded bottoms • Firm wide base — Prevents tipping over • Available in colors

• Containers available in diameters from ¼" through 1¼" • Any lengths up to 7" — Longer lengths on special order • Can be furnished in long lengths open at both ends. You can make your own containers by cutting to your sizes. We furnish closures.

Now is the time to consider the flexibility, the protection, the beauty, the features and economy of Lermer flexible plastic containers. Ideal for many products. **Write today for samples.**

ALSO A COMPLETE LINE OF RIGID MOLDED CONTAINERS

LERMER PLASTICS, INC.

574 SOUTH AVENUE • GARWOOD, NEW JERSEY

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

NEWS IN PACKAGING...

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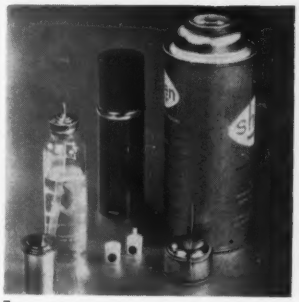
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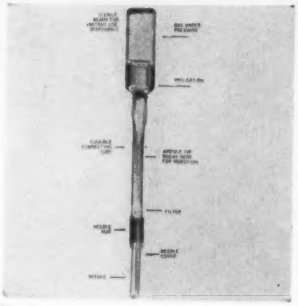
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1. Clairol window display by Einson-Freeman, aimed toward the Negro market, was an award winner in the Lithographers and Printers National Association's 11th annual Awards Competition.

2. Many leading brands of sun tan preparations have adopted squeeze-to-use polyethylene tubes in recent years. These are by Bradley-Sun Division of American Can Co., which can print tubes in four colors.

3. Allercreme Hypoallergenic Cosmetics of Texas Pharmacal Co. use Deco-Fire process labels by the Hazel-Atlas Glass Div. of Containal Can Co., makers of the opal containers. The container surface has matte finish for easy grip, and to prevent label loss or damage. The jars are peach color with a brown overprint.

4. Metal Fabrications, Inc., new and inexpensive line of self-contained areosol units are made to resemble more expensive refillable packages.

5. Components of aerosol combination produced by G. Barr & Company include a purse-size container that is filled from the aerosol can at right. Glass bottle may be encased in brass fitting (center) for purse use.

6. Pharma Plastics, Inc., has available a new tamper-proof seal for aerosol cans. The closure is torn off for use of the product, but after removal, cannot be repositioned, reducing pre-sale tampering. Open vents along the lower edge of the cap permit ready drying after the water bath on the filling line.

7. The Ampin, produced by Moore Kirk Laboratories, Inc., is a completely transparent injection unit, consisting of a specially drawn ampule of parenteral solution pressure-sealed under inert gas, a hypodermic needle, needle cover, filter, and a flexible connecting tube, completely sterilized and ready for use.

8. Mennen Skin Bracer is in a new glass bottle redesigned by Francis Blod Design Associates. A clear bottle is still used to allow the green lotion to show through. It has broad shoulders and a wide neck suggesting masculinity, and an easier-to-remove cap.

Union Carbide's New Materials

Two new compounds have been developed by Union Carbide Plastics Company. Bakelite DMDA-5140 is a low-cost polyethylene compound, specifically formulated for blow-molded bottle applications. Stress crack resistance is better than that of general purpose materials. Its use is suggested for liquid household and industrial products where extremely high stress crack resistance is not required. The compound is a medium-plasticity material with excellent rigidity and impact strength.

Bakelite DRDB-b169 is an ethylene copolymer with a new combination of properties, including flexibility over a broad temperature range and high resistance to stress-cracking; the compound, which contains no plasticizer, is easily injection molded, blow molded, and extruded in conventional equipment.

American Cyanamid Produces Whiter White

Calcofluor White combined with Fluorvar overprint varnish to give a new whiteness to packaging board has been introduced by American Cyanamid Dyes Department. Calcofluor-Fluorvar provides a more powerful visual impact with a superior base for sharper, clearer design, brighter colors and clearer lettering, in line with current package design. o

THE POPULAR

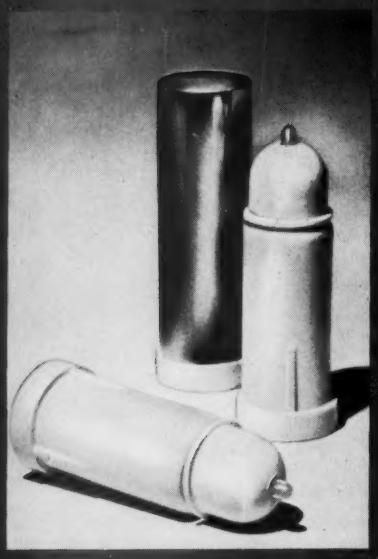
is NOW AVAILABLE IN A LARGER SIZE *because you asked for it!!!*

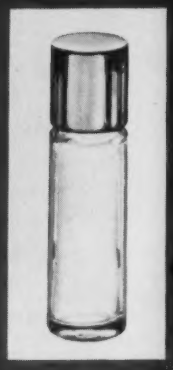
RICHFORD TOUCH-N-FLO*

PURSE DISPENSER

* U. S. PATENT

the 18 mm. TOUCH-N-FLO with our new Victoria Bottle.





So dramatically successful in its small plastic container style with gold-metal cap.

And so practical in a glass bottle with slip-on brass cap version.

the NEW 18 mm. TOUCH-N-FLO fits *any* Bottle *with* 18/410 *Neck*. *Write now for samples and prices.*

Touch-n-Flo is ideal for cream perfumes or cream-sachets, powder, liquid soaps, lotions, and deodorants—contents always flow with a touch, yet never leak.

RICHFORD CORPORATION

Executive Offices and Plant
3518 Oceanside Rd., Oceanside, N. Y.
Showrooms
Empire State Bldg., 350 5th Ave., N. Y., N Y.
Sales offices in all major cities throughout the world.

NPBMA Prize Winners (*Cont'd from page 743*)

1. Vitamin Sampler Box—Excellence Award in Drug Promotional Boxes—by F. N. Burt Company, Inc., for Abbott Laboratories, is white and gold and holds four vitamin miniatures. A protective sleeve facilitates mailing.

2. Vi-Sol Promotional Box—Excellence Award in Drug Promotional Box—by Paper Package Company for Mead Johnson and Company, designed by Nick Guardalabene, is a dispenser package containing 30 color photographs of mother and baby on cards with a description of the chewable vitamins offered.

3. Urograph Drug Box—Excellence Award in Drugs and Pharmaceutical Boxes—by Newark Paper Box Company for Warner-Chilcott Company, is a grey box, with hinged cover and die-cut platform, that holds ten test tubes for diagnostic reagent.

4. Salesman's Kit Box of Cough Medicine—Excellence Award in Superiority of Construction—by George H. Snyder, Inc., for Johnson & Johnson, designed by Frank Coons, is constructed of heavy board and grey paper, and is die-stamped.

5. Drug Mailer Box-Excellence Award in Mailing Boxes —by Walter P. Miller Company, Inc., for Ciba Pharmaceutical Products Inc., promotes itch-allergy medicine. Illustration on the box lid identifies the contents.

6. Cologne Box—Excellence Award in Rectangular Cosmetic Boxes—by Chaspec Manufacturing Company for Mary Chess, Inc., is a gold box covered with embossed foil wrap with loosely draped, satin inner covers and a red velvet, removable platform to hold the 15-oz., Italian glass bottle.

7. Perfume Box—Excellence Award in Round and Oval Cosmetic Boxes—by Karl Voss Corporation for Prince Matchabelli, Inc., designed by Rudolph Urias, is a white satin, covered, oval box, trimmed in gold, with a red velvet ribbon and the crown of Matchabelli across the lid.

8. Perfume Box—Excellence Award in Rectangular Cosmetic Boxes—by Wallace Paper Box Corporation for D'Orsay, Inc., is in white paper with the appearance of corrugated lines, embossed with the trademark, and the company name gold-stamped on the lid. The shoulder style base is covered with grey paper.

9. Men's Lotions Box—Excellence Award in Best Display Boxes—by Specialty Paper Box Company for Max Factor & Company, designed by Oliver Flower, is wrapped with a deep red paper with black lines. The base has a silver covered partition to hold three shaving items.

10. Cosmetic Box—Excellence Award in Rectangular Cosmetic Boxes—by Samuel Barnett Company for Coty, Inc., designed by Eric DeKolb, uses antique paintings for cover design, and repeats the design on the lid's interior. A green satin ribbon, embossed in gold, identifits the Coty name. •

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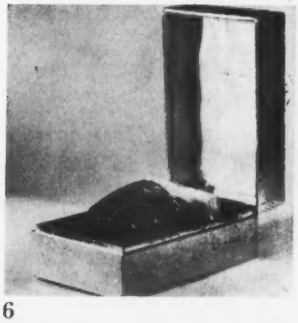
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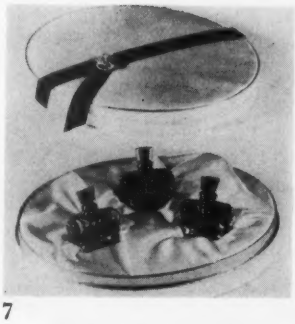
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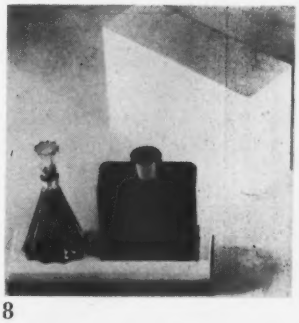
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PHOTOGRAPHY BY DICK BOYER

BERNARDIN closures keep good company!

The trust inspired by a brand name such as Kraft is a priceless accolade bestowed by the consumer for the integrity of a product and its maker. Such an asset naturally is carefully protected. And sharing in that responsibility are the suppliers of accessories (like closures, for example) with the same standard of integrity. Such we like to believe is our relationship with the trusted name—Kraft. *May our Closure Craftsmen work with you?*

NEWS and VIEWS

BY TED KLEIN PUBLIC RELATIONS DIRECTOR*

PMA Conference

This year's Pharmaceutical Manufacturers' Association meeting at The Greenbrier produced several well thought-out talks. The speech made by Dr. A. Wilhelm, vice-chairman of the board of Ciba Ltd., Basle, Switzerland, seems to me to be worthy of a far wider circulation.

Dr. Wilhelm is not only an accomplished pharmaceutical executive, his remarks showed him to be an economist and somewhat of a metaphysician as well. He did a remarkable job in a few minutes of explaining the problems of European economic unification. His description of the problems of the 15 European nations that are the free world's political and economic bulwark against Soviet economic penetration revealed clarity and insight.

It is widely agreed by economists that, if the 15 free nations in Europe would unify economically, Russia would be unable to compete in many areas of the world today. This economic penetration (recently exemplified by the Soviet increase in petroleum sales to the point where they now have over 10 per cent of the world market) is a sure way for the political penetration of communism. It astounds many economists and Dr. Wilhelm as well that the economic unification of the 15 nations has not already been accomplished in light of the continuing success of the Soviets. In his PMA talk he said "A Europe which fails to see that only as a unit can the West effect a balance of power with the East is doomed."

Dr. Wilhelm feels that the regionalism of Europe, which is the barrier to broader western commerce, could be overcome by pressure directed by the United States. He called for "an understanding among the European countries that eliminates any split by doctrinal quarrels and which implies economic unity as well as close ties of friendship with the United States of America."

Dr. Wilhelm referred to himself several times as an "industrialist." This refreshing candor was especially welcome, since many of us capitalists are reluctant to be called by our right name. It seems to me that more outspoken executives like Dr. Wilhelm are needed in our industry. He is a champion of our way of life and, although he is a Swiss national, his way of looking at the economic world to come is more "American" than many of the speakers who talk from industry's platform here.

Cost of Distribution

According to F. L. Capers of McKesson & Robbins, one of the speakers at the tenth annual Rutger's Pharmaceutical Conference, 65 cents of every dollar spent for drugs is for distribution. This staggering figure may be well known to many experts in the field, but to me it was one of the most interesting points brought out at the meeting.

If ways could be found to cut this cost—truly one of the highest in any industry—then a real saving to consumers could be achieved. How long ago was the last study in depth made on the pharmaceutical industry's distribution of drugs? If this figure is accurate, such a study by the Pharmaceutical Manufacturers' Association could make an important contribution towards saving the consumer money for medical care.

119 Million More Mouths

Our much-publicized U. S. food surplus is not nearly as big a problem as most people believe it to be. As a matter of fact, a number of farseeing scientists are becoming increasingly concerned that the present surplus may turn into a shortage in the not-too-distant future.

The population of the United States, according to the latest conservative estimate, will increase by 27 million to 208 million in 1970, when 80 per cent of us will be living in metropolitan areas. By the year 2,000, there will be 300 million Americans.

All these people will have to be fed from the same or fewer farm acres. In addition, we will also have to produce some surplus for our friends and for uncommited neutrals overseas.

As Dr. Robert H. White-Stevens, an American Cyanamid Company scientist, pointed out in a speech to the nation's food editors, our current surplus, even of grain, is not as huge as many believe.

"Our production is only about 4 per cent above consumption," Dr. White-Stevens said. "We are not nearly as well prepared today as was the Biblical Joseph when he stored grain for the prophesied seven lean years. In this land of plenty, we are, in fact, only a few months away from starvation should food production suddenly be curtailed.

"In view of this, can we feed the new millions being born?"

Medicine in Iceland

According to Hubert Schneider, international advertising manager for Chemiewerk in Germany, there is an interesting pharmaceutical market in our frozen neighbor to the North—Iceland.

Mr. Schneider, in New York recently as a visitor to my agency, talked about his recent visit to Iceland and of the immense interest he found there in pharmaceutical marketing.

Iceland has 220 doctors and a total population of 170,000. There are 22 hospitals of which two have their own pharmacies. Fifty firms from the United States, Germany, Great Britain, and Switzerland serve the country's pharmaceutical market, selling, for the most part, to 15 pharmacies. While no permanent detailmen reside in the country, many firms send a man to visit Iceland for a week or two each year.

Mr. Schneider reported that Pharmaco in Reykjavik is a distributor of many companies' products in Iceland. Mr. Einarsson is the man to write to for further information.

Aerosol Film Available

The 16 mm. color-sound motion picture "The Magic Button," originally produced by the Aerosol Division of the Chemical Specialties Manufacturers Association for television showing, is now available on loan for the first time.

Running approximately seven minutes, it shows a variety of handy household push-button aerosol products in use by inhabitants of a typical American town.

"The Magic Button" may be obtained by writing to Aerosol Film, Chemical Specialties Manufacturers Association, 50 East 41st Street, New York 16, N. Y.

Patents and Trademarks

BY THOMAS CIFELLI, JR., PATENT ATTORNEY*

Johnson & Johnson
Bandages and Dressings

Johnson & Johnson has announced a development of a new first aid dressing which, it is claimed, does not stick to the wound. This dressing, called Perfron, is said to speed healing by keeping the wound well drained. This advantageous result is brought about because the dressing does not adhere to the wound, thereby lessening the chance of reopening the wound when the bandage is removed.

It appears that the dressing comprises specially embossed polyethylene film with crescent-shaped apertures on the surface, preventing the wound from touching the absorbent fibers of the dressing. The wound is said to drain through the apertures which open and close like "flutter valves." The two layers of absorbent cellulose are covered with a soft, flesh-colored vinyl plastic material.

The announcement concerning Perfron almost coincides with the publication of a patent decision involving Johnson & Johnson and C. B. Stenvall, upholding the former's U. S. Patent No. 2,703,083, covering adhesive bandages having smooth, glossy, inert and easily removable facings in place of the old and well-known crinoline. Accordingly, at the moment it would appear that Johnson & Johnson's preeminent position in the field of dressings and bandages is as secure as it has ever been.

The decision upholding U. S. Patent 2,703,083, besides being of particular interest to patent lawyers because of some of the points raised, is also of general interest for technical reasons, because of the nature of the subject matter of the invention.

Prior art. As found by the Court, adhesive bandages had been on the market since about 1928. However, practically all such bandages in the surgical dressing field used crinoline as the facing material. These bandages were only moderately satisfactory because they lacked sufficient adhesive qualities. In other words, many of them would not stick properly when applied to the user's skin.

While a number of prior patents and a market survey by Bauer & Black, a J & J competitor, were relied upon, the court found that the Johnson & Johnson inventor, Gross, made his invention prior to all of the pertinent prior art and the survey, with the exception of two patents, U. S. 2,245,083, issued to Donaldson, and German patent No. 679,267, issued to Sander.

The Work of Gross. It appears that back in January 1948, Gross requested the J & J manufacturing department to produce a small quantity of adhesive bandages that gave instantaneous adhesion, or "quick-stick," through the use of a smooth, glossy, inert and easily removable facing which was placed in intimate contact with the adhesive mass. Such a facing imparts to the underlying adhesive mass a smooth and glossy surface even when subjected to sterilization conditions. The facing was cellulose-acetate. Gross found that facing members of the experimental bandages were inert with respect to the adhesive mass, and in most instances the facings were in intimate contact with it; also, that the facing member had good releaseability and that the adhesive quality had been well enhanced.

In explanation of the delay from 1948, the year in which the invention was made, to 1953, the year in which the patent application was filed, it was asserted on behalf of Johnson & Johnson that Gross' efforts were primarily centered in overcoming certain technical objections of Johnson & Johnson's merchandising department, a not uncommon occurrence.

The Donaldson and Sander patents compared with the Gross' patent. In the words of the court, Donaldson discloses the use of a specially impregnated paper for the protection of adhesive sheets of tape "when stored or when wound onto a spool" as a substitute for gauze or crinoline. The paper is "impregnated with a synthetic resin binding the lint fibres on the surface of the paper to the base thereof," so that, when the paper is removed from the adhesive surface, there will be no adherence of any particles of one material to the other.

The other patent upon which the defendant strongly relied, namely, Sander, discloses, in the words of the court, "the gauze facing on a bandage is impregnated with polyvinyl or polyacrylic products, to prevent the loss of adhesive material being removed. In other words, the impregnation is done to preserve the

*Richards and Cifelli, Newark 2, New Jersey.

adhesive and prevent its destruction or decomposition.

"The patent states that the 'impregnation . . . results in a smoothing out of the gauze.' Neither Donaldson nor Sander necessarily requires that the facing have a smooth and continuous surface—the central ingredient of the Gross invention.

"The testimony at the trial showed that gauze, when dipped in accordance with the teaching of the Sander patent, was not smooth and continuous. To make a smooth surface, it would be necessary to coat the fabric four times, a procedure neither suggested nor taught by Sander.

"The testimony also revealed that when Gross attempted to use a paper lining under the Donaldson patent, he met with failure because the bandages delaminated after sterilization."

The Court's Technical Conclusions. The court felt that even though the gauze facing and paper linings of the prior art patents did have smooth and continuous surfaces, neither of these two patents would have anticipated Gross, because neither was intended or designed to accomplish the function of the Gross invention; neither would have suggested the patented idea to a person skilled in the art unless he were examining it for that purpose; and neither contained within its four corners adequate directions for practicing the Gross invention.

The court noted that smooth, continuous facings of plastic materials were known in the art, but their use was confined to the pursuit of other and different results, and, that there was a total unawareness that such a facing could be employed under the conditions outlined by Gross to achieve greater, quicker and more satisfactory adhesiveness. The court felt that differences between the Gross invention and the prior art references were so significant that it could not be said that the invention would have been obvious to a person having ordinary skill in the art. In fact, the court was impressed by the great amount of research in which the industry had engaged for a number of years to obtain more satisfactory adhesiveness, and by the great impact that J & J's bandage had on the market, as well as its phenomenal commercial success.

As to the contention of the defendant that Gross merely substituted smooth films of organic materials for crinoline on the bandage facing and that the substitution of a modern material with known characteristics for another material does not amount to invention, the court, while conceding that the substitution of one material for another *ordinarily* does not amount to invention, nevertheless felt that, where the substitution solves a significant problem which prior efforts have failed to handle satisfactorily, invention is present. The court disregarded the fact that the newly substituted material had properties well-known to the trade or even to the general public, and the fact that the substitution does not involve discovery or utilization of an unknown or unexpected property of the material.

The court pointed out that for many years prior to the Gross invention, the surgical dressing industry was confronted with many problems in connection with sterile adhesive bandages sold to the general public. Consumers frequently complained that the bandages failed to stick quickly or sufficiently when applied to the skin. The court went on to point out that numerous attempts were made to solve this problem by increasing the adhesive power of the mass. These attempts proved unsuccessful and often resulted in greater problems. Higher adhesive powers of the mass made the bandages adhere to the skin so tenaciously that their removal was painful and left a sticky deposit on the user's skin. This attempted solution created problems of processing and manufacture, particularly in connection with sterilization and the lateral flow of the mass beyond those areas intended to be covered with adhesive.

In spite of the fact that crinoline facings were almost universally employed, no one prior to Gross had found that the solution to the problem lay in changing the facing from crinoline—a rough, starched gauze—to a smooth, inert, organic material. This was probably due to the widespread belief that the rough surface in the adhesive mass caused by the crinoline facing afforded greater opportunity for adhesion to the skin.

Gross found the solution to the problem by replacing the crinoline facing with a facing member of an organic material containing the following characteristics when applied in the following manner:

1. The film should present a surface that is smooth and continuous.
2. The film should comprise an organic material that is substantially inert with respect to the mass used in forming the adhesive areas of the bandage.
3. The film must be brought into and maintained in such intimate contact with its underlying adhesive coating that air pockets will be excluded and there will be imparted to the underlying adhesive coating the smooth surface of the film.
4. The film should have good releaseability.

The decision considered here is from a lower federal court in New York. The statistical probability is that there will be an appeal. Therefore, only the future will tell what the end of the judicial story with respect to the patent in question will be.

Hair Waving

Recent activity in this field has been in the area of new patents issued by the U. S. Patent Office, rather than in controversy or litigation, as was the case for some years. Readers of DCI will recall, of course, the protracted litigation involving Dr. McDonough's hair waving patents, U. S. Nos. 2,577,710 and 2,736,323. That litigation resulted in invalidation of the patents by the U. S. Court of Appeals for the Second Circuit (New York). Among the recent patents in this field, two show the continuing interest in tackling the remaining problems in cold permanent waving. These two patents are U. S. 2,976,215, issued to a French company, Societe Anonyme dite Societe Monsavon-l'Oreal, and U. S. 2,976,216, issued to Gillette.

U. S. 2,976,215. This patent attacks the odor problem associated with the use of permanent waving agents of the sulphydryl type, such as the mercaptoalkanoic acids. As is known, when kept in the form of aqueous solution, these compounds, which contain a free SH group, tend to decompose and to evolve hydrogen sulphide and other products of disagreeable odor. Thioglycollic acid is an example of an acid used in

(Continued on page 758)

(*Continued from page 757*)
practice.

Prior efforts already have been made to block the SH group by substituting for the hydrogen atom another group that can be readily eliminated by simple hydrolysis in alkaline medium. Among the compounds suggested for this purpose are amides of thioglycollic acid having the general formula $HSCH_2CONHR$, where R is hydrogen, a lower alkyl residue or a lower hydroxyalkyl residue.

However, the French inventors state that, while the latter type of amide gives good results in a fairly wide *p*H range (from 6 to 9), in regard to the quality of the wave obtained, such amides have the major disadvantage of being more unstable than thioglycollic acid. Accordingly, they more readily liberate, on storage, such a quantity of hydrogen sulphide that the product becomes substantially unusable. Moreover, they tend to produce lesions on the hands of operators who repeatedly use them.

The Frenchmen propose to avoid or minimize the disadvantages inherent in these amides, while retaining the possibility of obtaining a good wave, by using S-acyl derivatives of these amides for softening the keratin of the hair. The novel compounds have the general formula

$$R-CO-S-CH(R_1)-CO-NR_2$$

in which R represents a lower alkyl or carboxyalkyl residue, and R_1 and R_2 each represent a hydrogen atom or a lower alkyl residue.

Aqueous solutions of S-acyl-mercapto-amides, according to the invention, contain substantially no free SH groups, but they undergo hydrolysis in the presence of ammonia, an organic base such as an ethanolamine, for example, triethanolamine, or even an inorganic base, to give mercaptoamides useful as softening agents for the keratin, the hydrolysis being promoted by heating.

Two methods may be employed in using the new compounds. In one method, an aqueous solution prepared at the time of use is applied to the hair. The solution is made by simply dissolving the compound in powder form in the desired quantity of water containing the desired quantity of the base. Such solutions, according to the patent, can be employed in the usual manner for the permanent waving of hair. In the second method, the hair may be impregnated in the nonaqueous solution of one of the novel compounds and then, after winding the hair on curlers, the hair may be saturated with an appropriate alkaline solution. In this case, the liberation of the various mercaptoacetamides takes place on the hair itself.

It is interesting that the patent claims that various temperatures may be employed. Thus, for example, a so-called cold wave may be effected at room temperature; a permanent wave may be effected under a hood, (40 to 45° C.); or a tepid wave may be effected (60 to 80° C.).

Among the new agents disclosed and claimed in the patent are S-acetyle-mercaptoacetamide; S-acetyle-N-methyl-mercaptoacetamide; S-acetyl-alpha-mercaptopropionamide; and S-succinyl mercaptoacetamide (S-β-carboxypropanoyl-mercaptoacetamide.)

(*Continued on page 825*)

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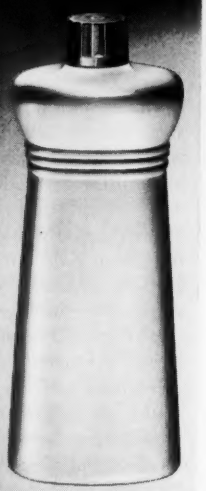

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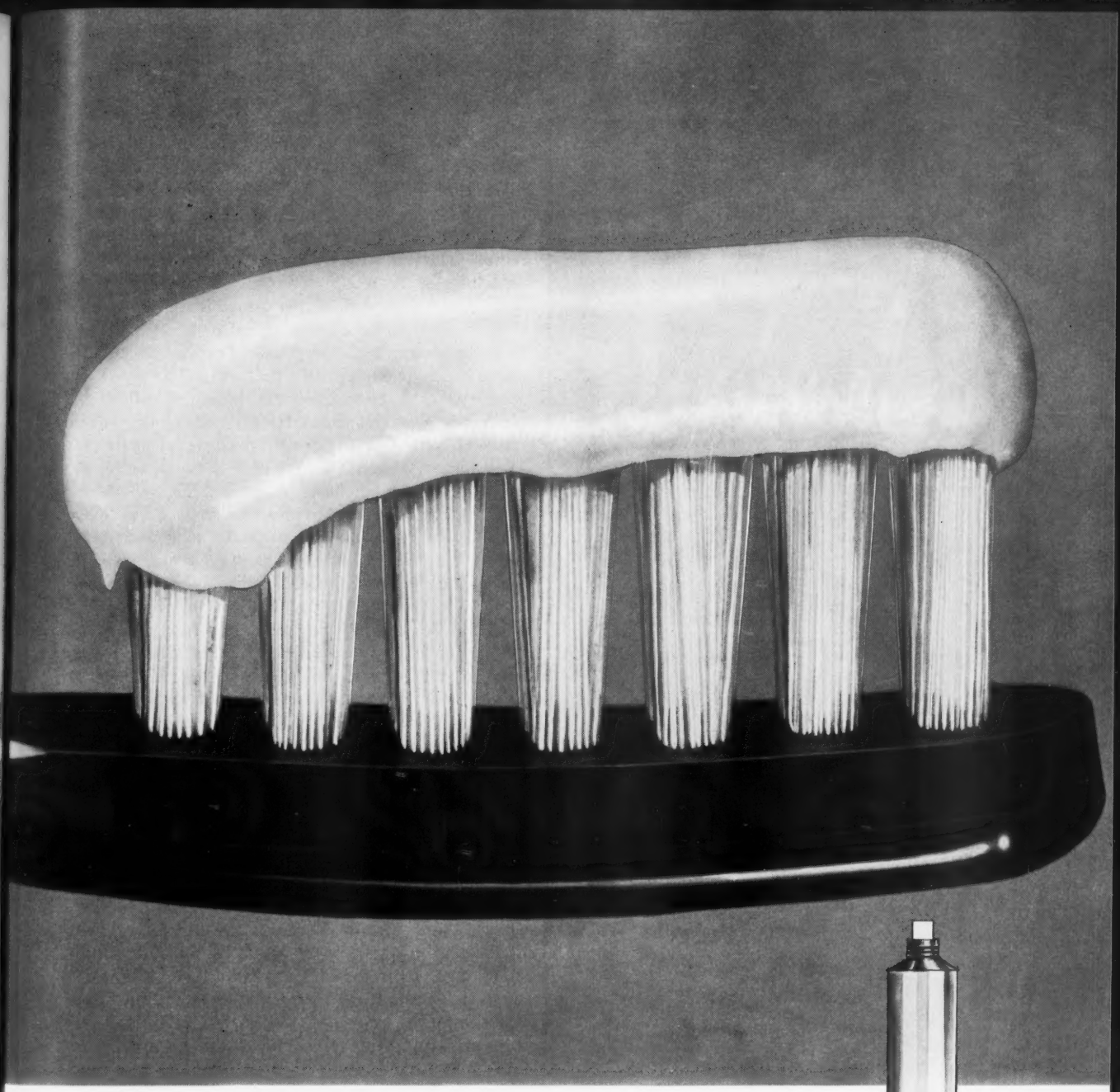

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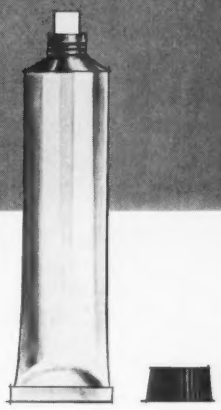

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(*Continued from page 726*)

Mr. Weiss put it on the line by warning his audience that the druggist has insisted on a protected market for himself for far too long. "Change is coming—change is here—with respect to drug retailing." he continued. "My plea is that you conform with the requirements of this revolution—that you change with it—and that you function in the true framework of a society dedicated to free competition."

It remains to be seen whether drug outlets will heed these warnings. They have certainly done little about similar complaints in the past. Their usual response is to wrap themselves up in the college-of-pharmacy flag and write their Congressmen—they have, of course, one of the most powerful lobbys in Washington. Meanwhile, the drug manufacturer sits on the sideline and chews his fingernails.

It is customary in American business for a seller to cultivate his customer, but in the pharmaceutical industry the manufacturer has often really gone to extraordinary lengths to please the druggist. General Foods will certainly try to keep on the good side of National Tea and Safeway, and General Electric will go out of its way to help appliance dealers; but neither of these companies will try to tell or teach these retailers how to conduct their businesses. Yet, drug manufacturers are continually trying to educate the pharmacist on the ABC's of selling. It is a long-standing gripe of manufacturers that pharmacies do not know how to sell. Sterling Drug, for example, spent a good deal of time and money two years ago on "Operation Bootstrap," a study designed to show the druggist how store displays could be used to generate increased business. This study involved market tests in 45 pharmacies over a three-month period. One of the important services to the entire drug field is the "Lilly Digest," started by Eli Lilly & Co. 29 years ago. This annual report constitutes a sales analysis of retail pharmacy operations, based on reports supplied by some 2,500 drugstores in the nation. An almost incredible example of a manufacturer trying to placate the pharmacist was given earlier this year by the president of Lakeside Laboratories, Milwaukee ethical drug producer, in a talk before a college of pharmacy. The Lakeside chief executive officer came close to apologizing to the pharmacists for the industry's practice of giving doctors free samples. He explained that the industry realizes that this means a "lost sale" to the pharmacist but, he pointed out, free samples represent an essential ingredient in the marketing of drugs. What other industry would apologize to retailers for a device that is designed to build up volume?

The inadequacy of drugstore promotion has put the manufacturer in a hole with regard to his over-the-counter products. These are drugs that do not require a prescription, and many manufacturers are thinking today about promoting them directly to the consumer (DCI, April 1961, p. 434). However, any one planning a strong promotional program would

eventually have to face the fact that there is a bottleneck at the end—the drugstore. And, if the manufacturer starts to think about taking some of these products into other outlets, he must be prepared to face the hostility of the pharmacy, which is still the prime outlet for prescription products. The druggist doesn't want any other retailer competing with him.

Charles T. Lipscomb, president of the Bureau of Advertising of the American Newspaper Publishers Association, said what is on the mind of many drug producers when he spoke last year at the annual convention of the National Association of Retail Druggists. Mr. Lipscomb produced a batch of statistics to show that the drugstore is not keeping pace with economic trends, and then added:

"Some experts believe that stores not pursuing an aggressive program of outside selling to get new customers are following a suicidal policy. These stores are losing nearly a fifth of their steady customers each year who move away or die, and simultaneously allow those coming to replace them to be exposed to the aggressive outside selling efforts of drug competition, non-drug competition, and others seeking larger shares of the consumer's dollar."

Mr. Lipscomb urged, among other things, that the drugstore try a little advertising for a change, to get customers. Food stores are among the nation's largest retail advertisers. Drugstores don't rank at all. "Lilly Digest" figures show that, for the average pharmacy, advertising expense amounts to about depreciation cost, ranging from just under 1 to 1.8 per cent of sales. Manufacturers, contemplating their advertising-to-sales costs of 20 to 33 per cent, just read that —and gulp!

PERFUME RAW MATERIALS

(*Continued from page 738*)

fore and during the fire. Which of them now knows of tomorrow? Few will take a long-term contract; they want hard cash today.

Back in our own hemisphere the battle at the Bay of Pigs doesn't bother the perfumers much. Cuba was sugar and cigars. Meanwhile, neighboring islands in the sun go on.

But the turmoil in Cuba had forerunners and counterparts in Guatemala, Nicaragua and the Canal Zone. Fortunately, the skirmishes were either in the government buildings or way out in the forests. The old familiar oils still pour out, and the post-World War II production of new oils progresses.

It was largely European refugees who introduced lime oil production to Mexico, and citronella and lemongrass to Guatemala. These men have had enough of wars, although they are still unable wholly to avoid politics.

In South America, Brazil is just being opened up a second time. First it was rubber up the Amazon. The city of Manaus bloomed, then died and was over-

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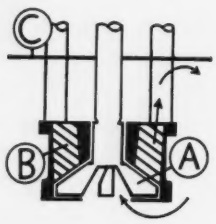

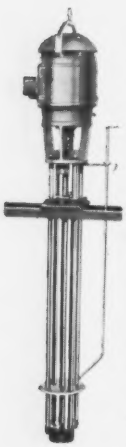

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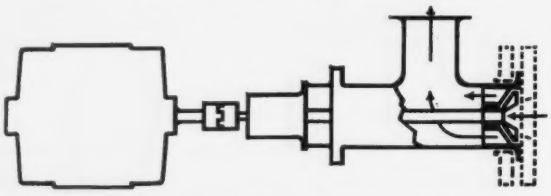
5-H	10	3500	4.938″	to 500
7-H	20	3500	5.625″	to 1000

*for comparison only. Actual output ranges from 50% to 200% of figures given.



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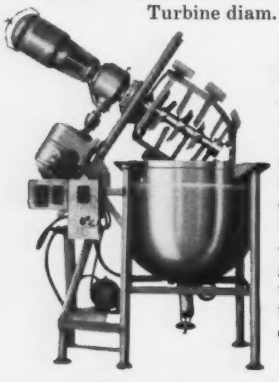

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grown with weeds. Traders brought out crocodile skins, peccary hides, bois de rose (from Peru, too) and tolu. With the new capital, Brasilia, inland, it may take a few years for any changes, but industrialization is already commencing.

Southern Brazil is still prospering from peppermint oil and menthol production introduced by immigrant Japanese farmers just prior to World War II. Ocotea —for safrol—comes from here, too. Paraguay for petitgrain oil, a placid pampas for all the problems brought on by the neighboring Peronistas.

Now back around the globe to North America and home. Industrialization has spread southward—electrification, textile mills, book printing and chemistry plants. Yet today cedar leaf oil from the Carolinas and Texas can compete with the African oil. Up in the north woods of Quebec, cedarwood grows on, and beyond the cedar forests beavers are hunted and trapped for beaver castors—prolificacy is the major problem here.

Around the Great Lakes and out west at either end of the Northwest Passage are the mint oils—as American as chewing gum—probably in constant demand far beyond the vagaries and fluctuations of farm policies.

Our industry is no less romantic today than it was in the days of clipper ships, and it's far, far more vast an industry than Captain Ahab could have imagined when he first heard of ambergris.

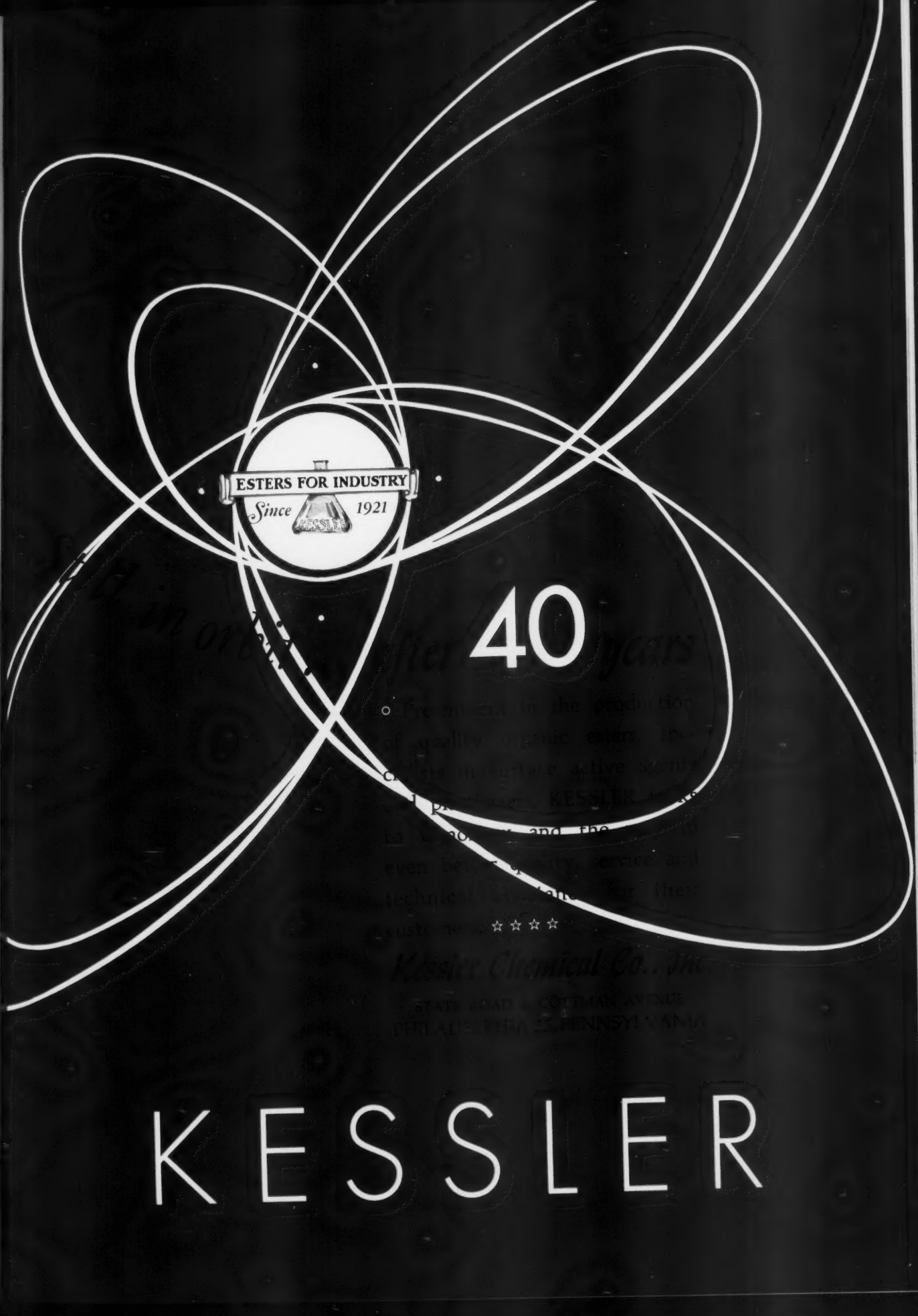
THE PERFUMER'S TRIALS

(*Continued from page 733*)

trating situation. Is it any wonder that the perfumer's laboratory has been nicknamed "Ulcer Gulch," and not facetiously?

To complicate matters further, the perfumer must now contend with the added factor of competition from Europe. Low labor costs and low raw material costs, especially in essential oils, permit the European perfumer to enjoy a decided edge over his American confrere. The European perfumer can create a more artistically satisfactory and attractive design than his American counterpart, simply because of the price differential. But let the American try to explain this situation to anyone who will listen, and see how little sympathy he will receive. The general attitude seems to be that an American perfumer is a genius of the kind who will perform only under great tension and anxiety. And does he get both ! ! !

To add further to the perfumer's woes, a great shift in public taste is taking place, and we are now in a static period prior to great changes. The allegedly good old days when a piece of mediocrity could be put in a fancy bottle and shoved down the public's throat with a tough, tub-thumping campaign of advertising are gone forever. The public is increasingly discerning of the contents of this same bottle, as witness the sales quandary of some of the recently in-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troduced fragrances. The public is ready to buy something above average, but many of the sellers are unsure and cling to the thinking and low prices of 20 years ago. This circumstance puts the perfumer right in the middle of a bitter controversy. Rising raw material costs squeeze him on the one hand. Skyrocketting labor costs are reflected in his mark-up requirements and hurt just as much as material costs. The poor fellow is trapped in this mess. No matter what he does, he can't win. He has to take criticism from every side. The going is rough on him, especially because he has no control over the situation and cannot exert even a moderating influence.

However, he has one consolation. What the public wants, it usually gets—come hell or high water. If folks want better fragrances they will get them, despite the arguments and groans that are presently being advanced. And with a change in the selling price structure, a load will ultimately be taken off the perfumer's back.

New methods for dispensing fragrance have piled additional problems on the perfumer. For a while, the popularity of the solid colognes created a series of technical difficulties almost as complicated as the former insistance on pure white perfumed soap. But gradually these troubles were solved, although even today some fragrance types are still limited in this solid application ,and require individual study.

The increasing popularity of aerosols and their associated novelties have presented terrific problems in perfume design and technology which have not yet been entirely resolved. A good portion of this responsibility has fallen on the perfumer, since it is his judgment that creates a fragrance. The headaches involved in adapting a fragrance to an aerosol were stupendous at the beginning, requiring especially a prolonged "life" study of the various raw materials. Drastic changes in perfume techniques and aerosol equipment were needed to meet the special requirements. Probably more actual research time was applied to aerosol development than had been spent in the previous 50 years on conventional perfumery.

Cosmetics have been vastly improved in the last few years and now require the development of specialized fragrance effects appropriate to their new design. The creation of an attractive cosmetic fragrance now demands far more thought and work on the part of the perfumer than at any time in fragrance history. Then too, the testing of a cosmetic fragrance is now a long and tedious project consuming much of the perfumer's time, for technical as well as artistic purposes.

Soaps have always demanded a great deal of ingenuity and effort from the perfumer. Fragrances must be designed that will not discolor in the finished product and that are stable in odor for a specified time. Tabulations of the performance of various basic materials have been prepared with great effort and expense, but these do not always supply the answer.

(Continued on page 786)

CONRAD G. HURLIMANN

GLENN W. JOHNSTON

ALBERT W. MERCK

FRED BARTENSTEIN, JR.

NEWS...

Appointments and Promotions

Conrad G. Hurlimann has joined Geigy Chemical Corporation as director and vice-president, and will assist in the company's general expansion and growth at the planning and management level. Mr. Hurlimann was formerly administrative vice-president and director of Pfizer International, Inc.

The Glenbrook Laboratories Division, Sterling Drug Inc., has appointed **Glenn W. Johnston** as vice-president and product director. With the company since 1957, Mr. Johnston has been administrative assistant-merchandising. He was formerly a district and division sales manager of McKesson & Robbins.

Albert W. Merck has been elected to the board of directors of Merck & Company, Inc., and **Fred Bartenstein, Jr.,** to the newly created post of administrative vice-president. Mr. Merck is a son of the late George W. Merck, former chairman of the board and president of Merck, and a grandson of George Merck, who founded the company in 1891. He has held various positions with the company since 1947, most recently as assistant to the executive vice-president, from which he resigned in 1959 to engage in the management of his own investments. Mr. Bartenstein will supervise officials responsible for Merck's general legal, patent, trademark, and public relations activities, continuing also to serve as general counsel of the company.

Wilbur G. Malcolm, president of American Cyanamid Company, has been elected chairman of the board of directors, in which position he continues as chief executive officer of the company, through an amendment to the by-laws. As president, Dr. Malcolm has held the position of chief executive officer since 1957. He succeeds **Thomas L. Perkins,** who resigned as chairman, but will continue as a director and executive committee member. **Kenneth H. Klipstein,** executive vice-president for operations, was elected president with administrative responsibility for all operating divisions. **George R. Martin,** executive vice-president for services, was elected chairman of an enlarged executive committee and will continue his responsibility for the treasury, legal and other service divisions. Dr. Malcolm joined Cyanamid's Lederle Laboratories as a bacteriologist in 1934, was named executive director of Lederle four years later, corporate vice-president for marketing in 1955, and president two years later. Mr. Klipstein joined Cyanamid's Organic Chemicals Division in 1933, later serving as its assistant general manager. He was elected a vice-president and director in 1957 and executive vice-president the following year. Mr. Martin began at Cyanamid in 1927, when he organized a legal department. He has served as head of that department until 1951. Mr. Martin was elected to the board in 1928, became a vice-president in 1945, and was named executive vice-president in 1958.

William G. Remington, Peerless Tube Company, and **Willard W. Brown,** vice-president of Winslow, Cohu & Stetson, have been elected members of Peerless Tube's board of directors. Mr. Remington is administrative assistant to the company's president; previously, he had been a sales executive. Peerless Tube has promoted **Frederic Remington, Jr.,** formerly assistant plant superintendent, to plant superintendent in charge of manufacturing. **Thomas J. Lynch, Jr.,** was promoted from office manager to assistant treasurer.

Elmer G. Smith has been elected president of American Plastics Corporation, a subsidiary of Heyden Newport Chemical Corporation, succeeding the late John A. Parsons. Formerly executive vice-president, Mr. Smith has been with Heyden Newport for more than 17 years in various sales, development and production functions.

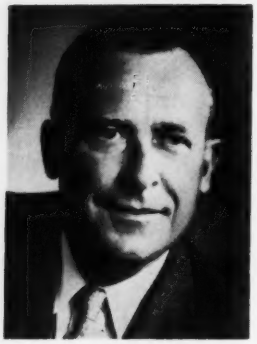
William C. Buffing, Jr., treasurer of National Starch and Chemical Corporation, has been elected a vice-president, and continues to serve as treasurer.

Roland Tibbetts, vice-president for administration of Hazleton Laboratories, has been elected to the company's board of directors. Prior to joining Hazleton in 1959, Mr. Tibbetts was program director of the National Small Business Men's Association.

Robert E. Parcell has been elected president of Arnar-Stone Laboratories, Inc., and affiliated companies, which position **Edward A. Twerdahl, Jr.,** has resigned, to give his full time to his position as vice-president for marketing at American Hospital Supply Corporation. Mr. Twerdahl continues as an Arnar-Stone director. Arnar-Stone and its affiliates merged with American Hospital Supply in an exchange of stock last year. Mr. Parcell had served as senior vice-president and director since the merger. Before that he was vice-president.

The board of directors of Foster D. Snell, Inc., have elected **Cyril S. Kimball** president of the corporation. Mr. Kimball had been executive vice-president since 1953. He joined Snell in 1926.

ROBERT C. OTTKE



K. J. BRUNINGS

ERNEST M. WEBER

HARRY W. FILLMAN

Dr. Robert C. Ottke, director of commercial development at Baxter Laboratories' Wallerstein Company division, has been promoted to technical director, International Division. Before joining Baxter in 1958, Dr. Ottke had been president of Caribe Chemical Corporation, San Juan, Puerto Rico, and manager of product development for Chas. Pfizer & Company. **H. George Hinck** has been elected treasurer and controller of Baxter Laboratories. Mr. Hinck, a Certified Public Accountant, has been with the Wallerstein Division for 24 years, recently as a senior vice-president and treasurer. He was also assistant secretary for Baxter. **Dr. Lavon D. Bechtol** has rejoined Baxter as director of clinical research. He previously served as associate medical director for the company from 1952 to 1955. Before returning to Baxter, he had been medical director for Ethicon, Inc., a division of Johnson & Johnson. He also has been a research pharmacologist with Lilly Research Laboratories and engaged in private medical practice. **William T. Murphy** has been promoted to general sales manager of Flint-Eaton & Company, a Baxter division. He previously had been the field sales manager of the division.

Dr. Ernest M. Weber has been elected vice-president—research and development, for Chas. Pfizer & Company, Inc. He will be responsible for the over-all direction of the company's broad research program for the discovery and development of new and improved pharmaceutical and chemical products for medicine, agriculture and industry. Other changes in research and development made by the company are: **Dr. K. J. Brunings,** appointed to the newly created position of administrative director for Groton Laboratories; **Dr. G. D. Laubach,** director of medicinal chemicals research; **Dr. G. M. Shull,** director of fermentation research; **Dr. I. A. Solomons,** director of chemotherapeutic research; **R. J. Taylor,** director of chemical products and development, and **Dr. R. M. Rees,** director of clinical research. Dr. Weber, formerly executive director of research and development, began his career at Pfizer as a research biochemist in 1942. Dr. Brunings has served the company since 1948, and was formerly director of chemical research and development. Dr. Laubach joined the company in 1950 as a research chemist, and most recently served as manager of the medicinal chemicals section. Dr. Shull, with Pfizer since 1947, has been manager of the microbiological research section since 1957. Dr. Solomons was formerly assistant director of chemical research, Mr. Taylor manager of chemical development, and Dr. Rees was appointed medical director last year. He continues in that position in addition to his new responsibilities.

Aerosol Techniques, Inc., has appointed **Harry W. Fillman** as director of manufacturing and **C. Donald Schoonmaker** as plant engineer. Mr. Fillman was formerly cost and budget manager for M & M Candies, Mr. Schoonmaker, plant engineer with King Container Company.

Magnus, Mabee & Reynard, Inc., has made the following staff appointments: **Dominick E. Bellavigna,** director of production, **Donald L. Cumming,** director of technical correspondence; **Gosta Hedstrom,** director of analytical control; **Walter J. Senyszyn,** director of perfume research. All have been with the company for some years. Their appointments as directors of these scientific and technical divisions is part of a program of intensified research and development.

Dr. William B. Stillman has been elected to the board of directors of the Norwich Pharmacal Company. Dr. Stillman, vice-president in charge of the company's Scientific Division, is a co-discoverer of the antimicrobial activity of nitrofurans. He fills the vacancy on the board created by the retirement of Howard A. Sumner.

Murray Nadel, formerly general manager, has been appointed vice-president of Augusta Plastics, Inc., and Sapery Products, Inc.

Thomas B. Richey, Jr., chief engineer for the Malmstrom Chemical Corporation, has been named vice-president for production and development and elected to the board of directors.

Dr. Stanley K. Freeman has joined the research staff of International Flavors & Fragrances Inc. as project leader. He had been chief chemist at Benzol Products Company.

At Abbott Laboratories, **Robert Flint** has been promoted to operating manager of Parenteral Products Manufacturing. In this new capacity he has responsibility for operations in the departments of intravenous solutions, intravenous equipment, sterile fill ampoules and vials, and ampoules and vials. He has been with the company 25 years.

Svend G. Ohrvall, Jr., is Ball Brothers Company, Inc.'s, new purchasing agent; **Ronald J. Woods** is now product manager for plastic containers. Mr. Woods formerly served in the firm's research and development work in plastic containers.

ROBERT S. TEMPLE

DONALD B. HEWITT

PETER L. HEGUY

ROBERT C. RING

Valchem, Division of United Merchants & Manufacturers, Inc., has appointed **Robert S. Temple** to the newly created post of sales manager for plastics. Initially, Mr. Temple will be responsible primarily for polyester resin sales. Recently, he has been associated with Union Carbide, Allied Chemical, and the Naugatuck Chemical Division of U.S. Rubber Company.

Donald B. Hewitt has been appointed sales promotion and advertising manager of Brockway Glass Company. He had headed his own agency since 1954. Brockway's new plant at Rosemount, Minnesota, now in operation, is headed by **Lewis Gayner** as plant manager, who has had considerable experience in the glass container industry.

Peter L. Heguy has been appointed sales manager of Packaging Corporation of America. He was formerly West Coast manager for New Jersey Machine Corporation.

Robert C. Ring has joined Duveen Soap Corporation as sales manager. Active in the field of soaps for 15 years, he is currently president of the Cosmetic Industry Buyers and Suppliers.

Mallinckrodt Chemical Works has appointed **Robert L. White** to the newly created position of southern regional trade relations manager. With headquarters in Charlotte, N. C., he is responsible for pharmaceutical distributor relations in Tennessee, North and South Carolina, Mississippi, Georgia, Alabama, Florida and parts of Louisiana and Arkansas. He has been with the company since 1938.

Dodge & Olcott, Inc., has appointed **T. Fred Baker** and **Robert Bjorn** as representatives on its national sales force. Formerly on the Mass. sales force he will operate from the D&O St. Louis branch. He has served as president of the Boston Drug & Chemical Club. Mr. Bjorn has joined the Chicago branch and will work in the Illinois, Indiana, and Michigan territory. He had been staff engineer with a Chicago management consultant firm.

Ira Joss has joined the sales organization of Kolmar Laboratories, Inc. Mr. Joss has been purchasing agent for Helena Rubinstein for the past five years, before which he was assistant to the president of Premo Pharmaceutical Laboratories and a research associate in the product development laboratories of E. R. Squibb & Sons.

Joseph E. Quinty has been appointed assistant sales manager of the Organic Chemical Division of Emery Industries, Inc., with headquarters at the home office in Cincinnati, Ohio. Mr. Quinty, who has been head of Emery's Chicago office for the past four years, will assist sales manager **James W. Ritz** in sales of the firm's organic acids, plasticizers, and jet engine lube bases. **Leslie R. Graham** and **Robert H. Strawbridge** have moved from the Cincinnati headquarters to the Chicago office. Sales representative **Thomas A. Williams** has been assigned to the Philadelphia territory, replacing J. P. Clancy. **Lindsay C. Taliaferro, Jr.,** is now serving Emery's New Jersey sales territory, replacing **R. S. Haley,** who has been promoted to sales manager of the Vopcolene Division on the West Coast.

The key staff personnel in the new eastern regional office of the Glass Container Division of Owens-Illinois are **Kenneth O. Boyer,** administrative manager; **Joseph M. Mueller,** manager of service and transportation, and **Arthur L. Gehring,** manager of quality control. **Earle G. Ingels,** is division vice-president and eastern regional fac-

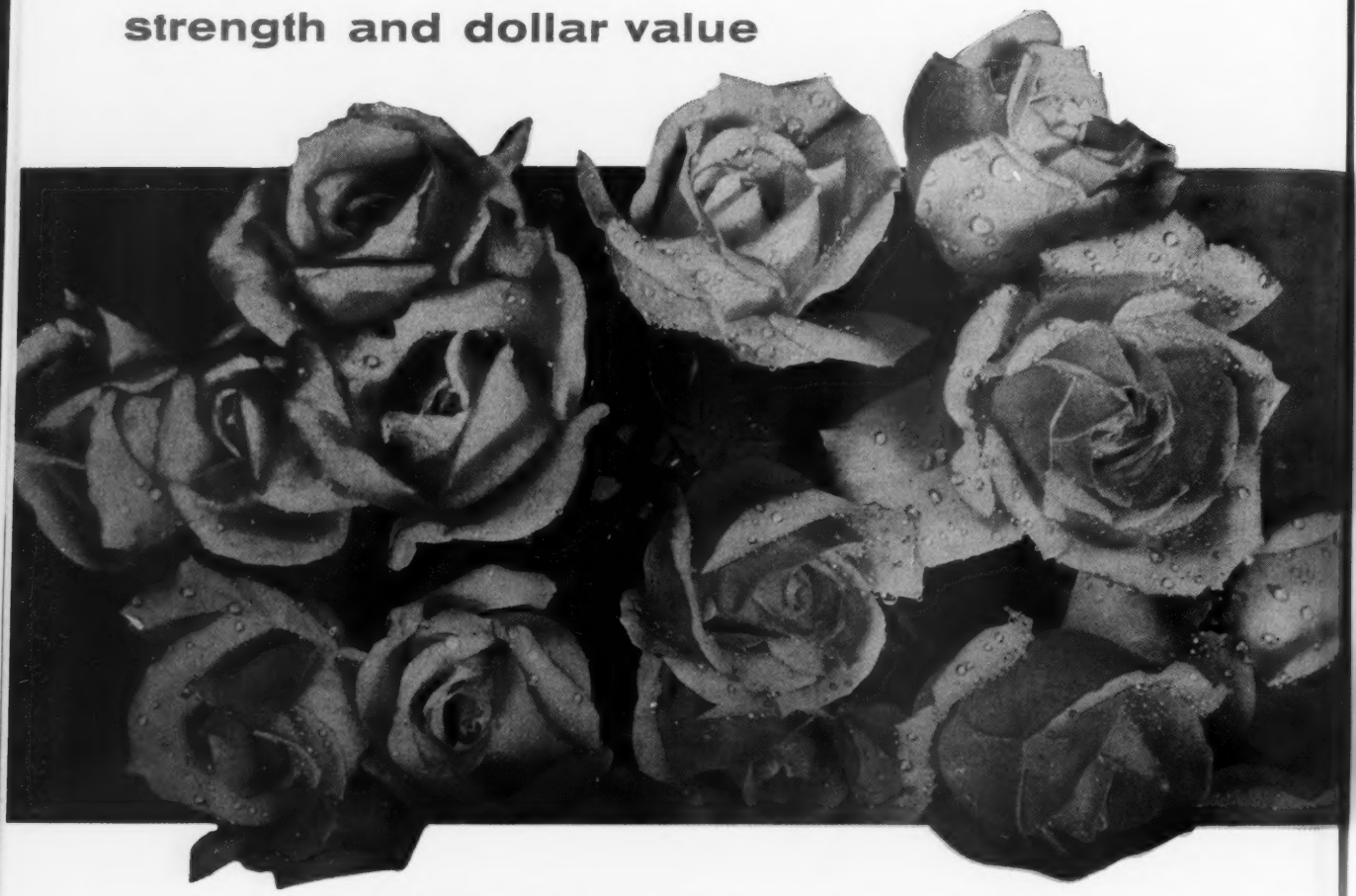
ROBERT L. WHITE

T. FRED BAKER

ROBERT BJORN

IRA JOSS

ROSYNTHIA . . . unsurpassed in lasting floweriness, strength and dollar value



ROSYNTHIA . . . a new Givaudan creation, offers tremendous value to the creative perfumer.

Developed after long study of the chemical constituents of natural rose, ROSYNTHIA has all the qualities needed in a specialty of this type . . . floral strength, odor value and lastingness. It can be used as an excellent extender or as a replacement for natural Otto of Rose and Rose de Mai Absolute, having their complementary qualities while offering a large saving in cost, plus the assurance of continued availability and uniformity.

This new development is the latest of many which have established Givaudan as a leader in the field.

GIVAUDAN

Better perfume materials through constant research and creative ability

GIVAUDAN-DELAWANNA, INC.

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tories manager. Mr. Boyer has been manager of the division's production planning department in Toledo, Ohio, for the past three years. Mr. Mueller, with Owens- Illinois 19 years, has recently been co-ordinating a new service improvement program for the division's plants and sales branches. Mr. Gehring has been located in New York for the past ten years with responsibility for quality and specifications in the east.

John P. Sheehy has been appointed district sales manager for Glyco Chemicals. He will cover Metropolitan New York, New Jersey, Delaware, eastern Pennsylvania, Maryland, and the District of Columbia. For the past five years he has been a technical representative for Glyco.

John R. Charlton is the new manager of commercial development for the Fine Chemicals Division of Shulton, Inc., with responsibility for the development of new industrial chemicals, and the acquisition of patents and processes. Prior to joining Shulton, Mr. Charlton was general products manager of Canadian Curtiss-Wright.

Dr. Bernard R. Schaafsma, now manager of process development in the Colgate-Palmolive Company's research and development department, had previously served at Colgate's Jersey City Research Laboratories as manager of spray products research in the Household Products Division's research department. He joined the company in 1946 as a senior project chemist. **John Kiehl** has been appointed consultant to the perfumery section of the company's research and development department. Mr. Kiehl had been Colgate-Palmolive's chief perfumer for more than ten years prior to his retirement in 1951. Working in his own laboratory in Willsboro, New York, he will assist in developing new ideas for perfumes and flavors to be used in the company's products.

James W. Murphy has been appointed national sales manager for all April Showers and Cheramy fragrance products for Houbigant Sales Corporation. He formerly held a similar position at Shulton, with whom he was associated for 20 years.

Robert E. Hoben is now sales manager for the Borden Company's Marcelle Cosmetics products. A Marcelle sales representative for 20 years, he will be responsible for sales of the full product line throughout the United States, with headquarters in Little Rock, Ark.

Dr. Nelson H. Schimmel has been appointed director of clinical research of the Warner-Lambert Research Institute. Dr. Schimmel was formerly senior clinical investigator at Merch Sharp & Dohme Research Laboratories. Additional appointments to the Institute staff are: **Dr. Herbert A. Lieberman,** senior research associate in the Applied Science Division; **Dr. Harold Sheinaus,** senior scientist; and **Dr. Melville W. Osborne,** Scientist in the Basic Sciences Division. Dr. Lieberman had been with International Latex Corporation as manager of product development. Dr. Sheinaus was director of product development at Carroll Dunham Smith Pharmacal Company, and Dr. Osborne has been head of the cardiovascular research section of Geigy Chemical Company. In the Warner-Lambert Products Division, **Gib Dannehower, Jr.,** product director for Bromo-Seltzer, has been named product director for Listerine, and **William J. Corcoran** has been promoted from product manager for the dentifrice lines to product director for Bromo-Seltzer.

Marvin R. Marth has become assistant sales administrator for Armour Pharmaceutical Company with headquarters at Kankakee, Ill. Mr. Marth has been with the company since 1959, recently as a supervisor in the labeling section.

David L. Sloan, Jr., recently joined the Machinery Division of Crown Cork & Seal Company. Before joining Crown, he directed the Quality Control Division of the Charles E. Hires Company. Mr. Sloan's headquarters will be the company's offices at 9300 Ashton Road, Philadelphia, Penna.

Dr. Leonard J. Lerner has been promoted to research associate, biological chemistry section of the Squibb Institute for Medical Research, with principal responsibility in planning and operation of the research and screening activities of the biological-endocrine group of his section. He joined Squibb in 1958.

Anna J. Figsbee of Avon Products, Inc., receives the first "Cosmetic Career Woman of the Year" Award Charm from Kay Colton, Morningstar-Paisley Inc., at the men's day luncheon held at the Waldorf-Astoria, N. Y. C.

Dr. Benjamin Borenstein has been named head of the product application laboratories for the Fine Chemical Division of Nopco Chemical Company, where he will be engaged primarily in the formulation and application of vitamins and enzymes for the dairy, pharmaceutical and food fields. Dr. Borenstein has been serving as a food technologist since joining Nopco in 1959.

George H. Dougherty, Jr., has been appointed a technical representative in the mid-western sales region of Union Carbide Plastics Company, Division of Union Carbide Corporation. He will be responsible for the sale of bonding and laminating, calendering, film and sheeting, and coating materials which include Bakelite Brand vinyl, polyethylene, epoxy, phenolic, and styrene resins and compounds.

The New Jersey Zinc Company has named **Stanley E. Moore** and **Robert O. Smith** as sales representatives in its pigment division. Mr. Moore has been assigned to the Kansas, Missouri, Arkansas, Kentucky and southern Illinois territories. Mr. Smith will be active in the Chicago area and Minnesota.

Mysie Emmet has joined the perfume staff of Perry Bros., Inc. Mrs. Emmet, with many years of experience as a perfumer, was the first woman to be admitted to membership in the Society of American Perfumers, in 1952.

Edwin G. Allison has joined R. D. Webb & Company, Inc., as sales representative for New York City, Westchester County and New Jersey. Formerly with S. B. Penick & Company as special representative

MEDICINAL, PHARMACEUTICAL AND VITAMIN FLAVORS

by Florasynth

We maintain a special laboratory for research and development of flavors for use by the pharmaceutical industry including the development of appropriate flavors suitable for specific individual preparations...

WE LIST HEREIN FLAVORS OF SPECIAL CHARACTERISTICS WHICH HAVE RECEIVED WIDE ACCEPTANCE:

SPECIAL LIQUID FLAVORS

	SUGGESTED USAGE TO 1 GALLON SYRUP
Caramellone Syntharome Imit. Butterscotch Flavor	1/4 to 1/2 oz.
Concentrated Imitation Butterscotch Flavor	2 ozs.
Concentrated Imitation Caramel Flavor	1 oz.
Imitation Tame Cherry Flavor 2:1	2 ozs.
Syntharome Imit. Wild Cherry Flavor Special	1/4 to 1/2 oz.
Imitation Wild Cherry Flavor 2:1	2 ozs.
Imitation Chocolate Aroma Flavor	2 ozs.
Cola Type Flavor 1:1	1/2 to 1 oz.
Cola Type Flavor 4:1	4 ozs.
Concentrated Lemon-Lime Flavor	1/4 to 1/2 oz.
Licorice Type Flavor 1:1	1/2 to 1 oz.
Syntharome Imitation Maplenut Flavor	1/2 oz.
Syntharome Imitation Raspberry Flavor	1/4 to 1/2 oz.
Syntharome Imit. Tutti-Frutti Flavor	1/4 to 1/2 oz.
Imitation Tutti-Frutti Flavor 2:1	2 ozs.
Imitation Rum and Butter Flavor	1/2 oz.

The indicated usages to the gallon of syrup are mentioned purely as indications for test evaluation work in manufacturer's own formulations.

ENTRAPPED POWDERED FLAVORS

Florasynth being one of the first companies to manufacture powdered flavoring materials, we list below descriptive details of what we feel to be the finest type of New Entrapped Powdered Flavors. Features of these New Entrapped Powders are (1) as high as 50% oil content by weight. (2) Instantly dispersable. (3) Non-hygroscopic. (4) Extremely economical. Shelf life studies have indicated excellent results.

	SUGGESTED USAGE TO 100 LBS.
Apple Imitation	2 to 4 oz.
Banana Imitation	2 to 4 oz.
Cherry Imitation	2 to 4 oz.
Cola Type	2 to 4 oz.
Grape Imitation	2 to 4 oz.
Lemon	2 to 4 oz.
Lemon-Lime	2 to 4 oz.
Lime	2 to 4 oz.
Loganberry Imitation	2 to 4 oz.
Maple Imitation	2 to 4 oz.
Orange	2 to 4 oz.
Pineapple Imitation	2 to 4 oz.
Raspberry Imitation	2 to 4 oz.
Root Beer	2 to 4 oz.
Strawberry Imitation	2 to 4 oz.
Tutti-Frutti Imitation	2 to 4 oz.

Other Entrapped Flavors Developed on Request

Standard Packing: 150 lb. containers

Florasynth **LABORATORIES, INC.**

EXECUTIVE OFFICES: **900 VAN NEST AVE.,** (BOX 12) **NEW YORK 62 N.Y.** • CHICAGO 6 • LOS ANGELES 21

Atlanta • Boston • Cincinnati • Dallas • Detroit • Minneapolis • New Orleans • St. Louis • San Francisco

Florasynth Labs. (Canada Ltd.) • Montreal, Toronto, Vancouver, Winnipeg • Agts. & Dist. in Mexico—Droguería & Farmacia Mex. S. A., Mexico 1, D. F.

for its Essential Oil & Aromatic Division, Mr. Allison has more than 30 years of experience with essential oils and food flavors. **John L. Orphan,** formerly West Coast representative for Webb, has been promoted to West Coast manager. **Thomas E. Butchko** has been appointed assistant sales manager.

Coty honored its executive vice-president, Jean Despres, for 40 years of service at a recent luncheon at the Plaza Hotel, New York City. Above left, Mr. Despres accepts a plaque from Philip Cortney, Coty's president.

Charabot President Visits Parent Company

M. G. Couderchet, president of Charabot and Company, Inc., recently left for France to visit the parent company in Grasse, and discuss plans for extension of business in the United States.

Robins Employees Honor President

E. Claiborne Robins was presented with a silver tray and goblet set at a dinner in commemoration of his 25th year as president of A. H. Robins Company, Inc. E. W. Zeller, vice-president, made the presentation.

Wheelock Named by FTC

John Neal Wheelock has been appointed executive director of the Federal Trade Commission. With the FTC since 1937, Mr. Wheelock has had wide experience in both the antimonopoly and antideceptive practice work of the Commission and has held numerous responsible posts within the agency, including that of Legal Advisor and Assistant to the Chairman.

Warner-Lambert Chairman Married

Miss Mamdouha As-sayyid, member of the Lebanon delegation of the United Nations, and Elmer H. Bobst, chairman of the board of Warner-Lambert Pharmaceutical Company, were married Saturday, April 22, at the home of the bridegroom in Montclair, N. J.

Miss As-sayyid, who was graduated from the American University of Beirut in 1947, has been an advisor to the Lebanese U. N. delegation on social problems since 1958. She also holds a graduate degree in social science from the University of Birmingham, England, and a masters degree in public health from the University of California.

Mr. Bobst, formerly president of Hoffmann-La Roche, Inc., became president of Warner-Lambert in 1945, and has been chairman of its board since 1954.

After an extensive trip through the Near East and Europe, Mr. and Mrs. Bobst plan to reside in Montclair and Spring Lake, N. J.

Triumphant Golfer

George Kolar, president of Kolar Laboratories, Inc., recently made a hole in one at Palm Springs.

Expansions, Acquisitions and New Plants

A new research center has been opened by the **A. E. Staley Manufacturing Company,** dedicated to developing new and more useful products particularly in product developments from the Staley starch fractionation process announced early this year, which opens up a new area of corn starch applications and potentials, in Decatur, Ill.

Construction of the Staley Research Center began in 1959. The structure consists of three wings. A four-story central wing houses 138 fully-equipped laboratory units, with modular design for grouping units in work areas and flexibility in future arrangements. A three-story south wing houses administrative offices and a technical library. The two-story north wing has a cafeteria and an auditorium.

The **R. T. Vanderbilt Company, Inc.,** Specialties Department, has completed an addition to its existing plant at Hoyt Street, Norwalk, Conn., that will double previous warehouse capacity.

The new 87 x 90 foot structure is of concrete and steel construction, with face brick that matches the original plant.

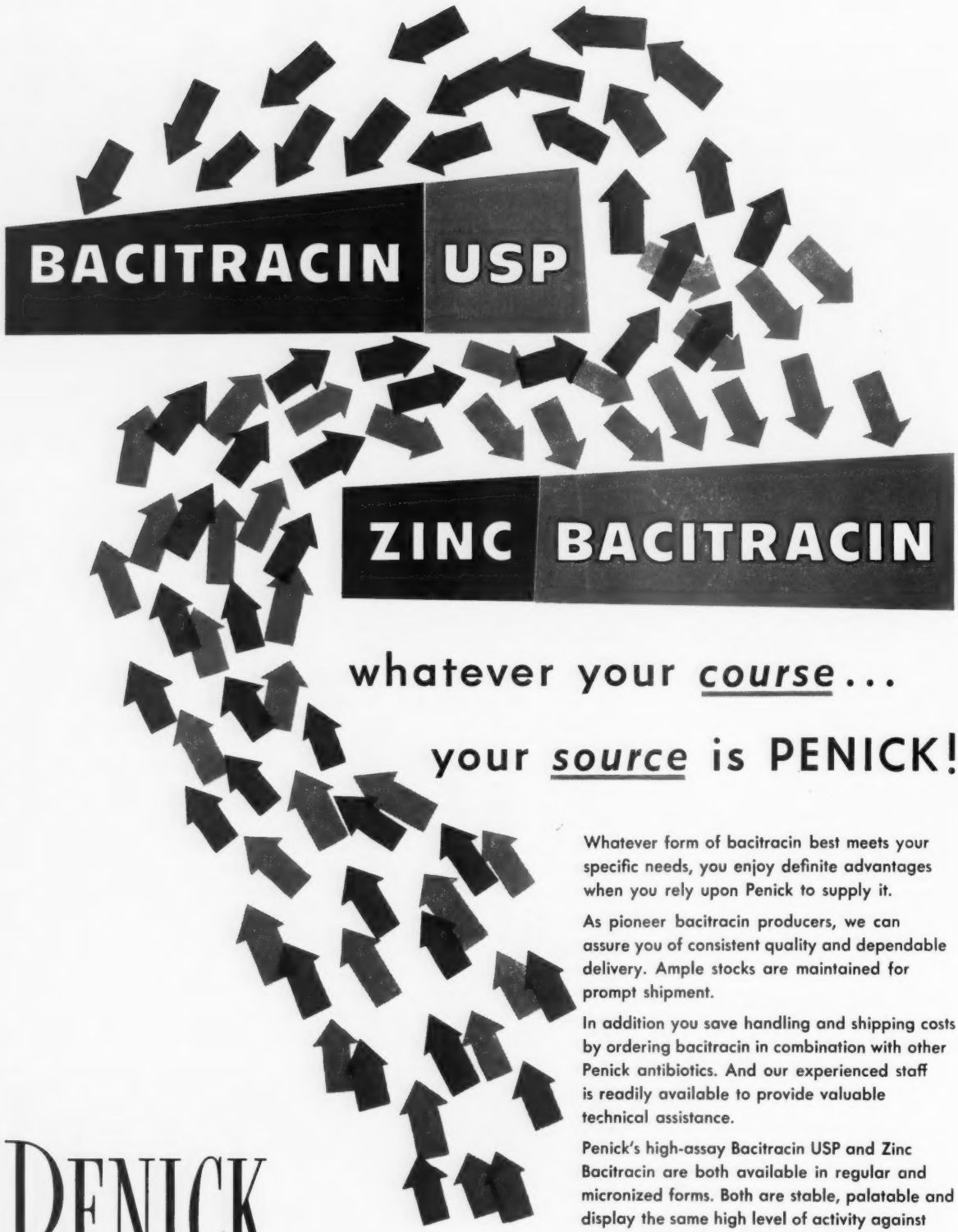
Pylam Products Company, Inc., manufacturers of custom-blended colors and dyes, has moved to its own new building at 95-10 218th Street, Queens Village, N. Y., making possible an immediate 300 per cent expansion of its production.

The 7500 square foot plant has been especially designed with a modern color laboratory and mixing machinery, which enable Pylam to offer customers a unique color-recommendation service, particularly important to such fields as soap, chemical specialties, drugs, cosmetics, and plastics.

Revlon International Corporation has begun work on a new cosmetics and toiletries manufacturing plant in Mexico City. Production in the 55,000-square-foot facility is scheduled to start in March, 1962, when operations will be transferred from existing facilities in Mexico City.

Aluminum Company of America will re-enter the printed aluminum foil business late this year. The foil will be printed at Chicago by **R. R. Donnelley & Sons Company,** which is now constructing a new facility designed especially to meet Alcoa's requirements. All sales will be handled through a new printed foils division of the company's sales department, with J. Robert Roney, formerly manager of laminated foil

A. E. Staley Manufacturing Company's new 108,000 square foot research center in Decatur, Ill.



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your *source* is PENICK!

Whatever form of bacitracin best meets your specific needs, you enjoy definite advantages when you rely upon Penick to supply it.

As pioneer bacitracin producers, we can assure you of consistent quality and dependable delivery. Ample stocks are maintained for prompt shipment.

In addition you save handling and shipping costs by ordering bacitracin in combination with other Penick antibiotics. And our experienced staff is readily available to provide valuable technical assistance.

Penick's high-assay Bacitracin USP and Zinc Bacitracin are both available in regular and micronized forms. Both are stable, palatable and display the same high level of activity against a wide spectrum of Gram-positive organisms.

We also offer a variety of interesting salts for experimental and product development work.

Samples and information on request

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NYQ *Chemical Division*

S. B. PENICK & COMPANY

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LOS ANGELES SAN FRANCISCO PORTLAND, ORE.

sales, as manager. He will also direct the marketing of printed foil products. Alcoa is now forming a new art department to supply graphic design work.

Guerlain, Inc., has taken space at 27 West 65th Street, New York City, for warehousing and shipping, to expand its facilities.

The **F D & C Testing Laboratory Corporation** has established tocicity and pharmacology testing laboratories for the provision of laboratory and professional services to the food, drug and cosmetic industries. The new laboratories are located at New Hampton, N. Y., with New York City offices at 207 East 37th Street. The laboratories are under the direction of Dr. R. J. Schachter and offer services from the inception of a new product through presenting a New Drug Application to the FDA.

As part of an extensive remodeling program undertaken by **Fries & Fries Inc.,** the company has recently completed four new testing and evaluation laboratories.

New Fries & Fries testing laboratory.

Especially designed for the creation and development of odors for use in such products as cosmetics, solvents and waxes, the laboratories are also used for testing and evaluating for aesthetic appeal following incorporation into the various media. . . . **Commercial Solvents Corporation** has opened its new West Coast office at Agnew, Calif., to serve as headquarters for the company's sales operations in animal nutrition products and industrial, agricultural, and pharmaceutical chemicals. Richard G. Gilbert, district manager for the industrial chemicals department, and Norman Stark, district manager for the animal nutrition department, will make their headquarters there.

Chas. Pfizer & Company, Inc., observed the Community Leadership program sponsored annually by the Boy Scouts of America by giving two scouts a first-hand look at their operations. Plant manager Harry L. Denzler is shown with John Picarelli (left) and Arnold Manheimer (right).

New Locations

The Edison Chemical Company, a subsidiary of Colgate-Palmolive Company, has relocated its general drug sales offices at 300 Park Avenue, New York City, in the Colgate-Palmolive building. The Hospital Sales Office has also been moved to 201 East Erie Street in Chicago. Manufacturing will soon be moved to Colgate's plant at Jeffersonville, Indiana.

"The building's coming down, or we'd still be there," was the comment of Henry G. Salomon, third generation president of **L. A. Salomon & Bro., Inc.** After 81 years in the same location at 216 Pearl Street, New York City, the company has moved to 245 Fifth Avenue. The warehouse is now located in Brooklyn at 34 Fourth Street.

Dodge & Olcott, Inc., has moved its Boston sales office to 600 Main Street, Waltham 54, Massachusetts; phone, TWinbrook 4-1220.

Paul Klemtner & Company, Inc., has moved from Newark, New Jersey, to 1270 Avenue of the Americas, New York City 20; phone, LT 1-2100.

Roubachez of Chicago, Inc., has moved to larger quarters at 1414 South Wabash Avenue, Chicago 5, Ill. The telephone numbers remain the same.

American-Wheaton Glass Begins New Operations

American-Wheaton Glass Corporation, a majority-owned subsidiary of the American Can Company with a minority interest held by the Wheaton Glass Company, will bring its first plant into full operation this month. In addition to its new glass subsidiary, American Can now has five divisions producing containers and packaging materials of metal, paper, plastics, and combinations.

N.I.H. Contract to Hazleton

Hazleton Laboratories, Inc., Falls Church, Va., has been awarded a $124,000 contract from the National Institutes of Health to establish and operate a drug quality control laboratory and a facility for the receipt, storage, and distribution of cancer chemotherapeutic compounds. This work is being carried on as a part of the drug development program of the Cancer Chemotherapy National Service Center.

Edward A. Garlock, research application specialist at Hazleton Laboratories, is the technical director for the drug quality control program. Under this program the determination of the physical constants and chemical compositions of anticancer agents will be conducted in Hazleton's newly expanded chemistry department.

Magnus Elected N. Y. Board of Trade Treasurer

Robert B. Magnus, Sr., executive vice-president, Magnus, Mabee & Reynard, Inc., has been elected treasurer of the New York Board of Trade, Inc. He is also chairman of the Budget and Finance Committee. Mr. Magnus was formerly a vice-president of the organization and president and treasurer of the Drug, Chemical and Allied Trades Association, a section of the New York Board of Trade, Inc.

Drug Executives Join Brand Names Board

Dr. J. Mark Heibert, chairman of the board, Sterling Drugs, Inc.; Roy W. Pett, manager, Association of American Soap & Glycerine Producers, Inc.; Howard A. Prentice, executive vice-president, The Proprietary Association; and Dr. Austin Smith, president, Pharmaceutical Manufacturers Association will serve

as directors of Brand Names Foundation, Inc., for the year which began May 4, 1961. Dr. Milton Elsberg, president, Drug Fair Drug Stores, will also serve on the board as a representative of the Retail Advisory Council.

Philadelphia College of Pharmacy and Science Elects Officers

At the recent annual meeting of the members of the Philadelphia College of Pharmacy and Science, Dr. Ivor Griffith was re-elected president for his 21st year.

Other officers elected were C. Mahlon Kline and John E. Kramer, vice-presidents; Theodore Campbell, Jr., corresponding secretary; W. Wilson McNeary, recording secretary; and A. Lee Caldwell, treasurer.

Packaging Institute Forum

The Packaging Institute Annual National Forum will be held at the Biltmore Hotel, New York City, October 18 to 20 this year. Forty-eight technical papers will be presented in 12 half-day seminars, three running concurrently at all times. This year's seminars will be "synchronized" to permit registrants to preselect each paper to be presented, so individuals can hear only those papers that apply to a specific segment of packaging. Time will be allowed between the presentation of papers, so that registrants can move from one seminar to another without missing any portion of the papers of their selection.

New York Packaging Institute Group

The Packaging Institute and the Society of Packaging and Handling Engineers held a joint dinner meeting in New York City as the first step in forming a Packaging Institute group in New York, a move which is expected to produce considerable interest and participation.

Holmgren Honored

R. Bruce Holmgren, editor of *Package Engineering* and a professional member of The Packaging Institute, received a Packaging Man of the Year award for outstanding contributions to packaging education, from the Michigan State University Packaging Society at its recent annual banquet in East Lansing.

Mr. Holmgren is chairman of the industry advisory committee of MSU's school of packaging, and has been a member of the committee since its inception in 1953. He is also vice-chairman of the MSU Packaging Foundation.

Lehn & Fink Honors Nine

Eight new members of Lehn & Fink's Quarter Century Club of employees with 25 years of continuous service or more, and one member with 50 years, were honored by the club at its recent annual meeting at the Waldorf-Astoria Hotel in New York City. Those honored were Joseph Gilbert, with the company 50 years, and Jean Zignorski, Mary Galabrese, Audrey Atkinson, John R. Goss, John S. Malone, Clare O'Brien, Frank Malinski, Jr., and Herbert Y. Nash.

Our Error

The article, "Compression Characteristics in Tableting," by Leonard L. Kaplan and J. Edward Wolff appeared in our May issue, page 584. Unfortunately, some Gremlin transposed the affiliations of the two authors.

Mr. Kaplan is with Walker Laboratories, and Mr. Wolff with Sterling-Winthrop Research Institute.

Architectural rendering of new Eli Lilly toxicology building being constructed in Greenfield, Ind.

New Editorial Board Member

Richard K. Richards, M.D., director of experimental therapy at Abbott Laboratories, has been elected to the editorial board of *Clinical Pharmacology and Therapeutics*. He is the first member of the journal's editorial board to be elected from American industry.

Dr. Richards, who has been with Abbott since 1936, also has served for a number of years on the board of collaborators of *Archives Internationales de Pharmacodynamie et de Therapie*, published in Belgium.

Dr. Gebhart Retires

Dr. Arthur I. Gebhart has retired as Coordinator of Scientific Liaison in Colgate-Palmolive's Research and Development Department. Dr. Gebhart joined the department in 1941 after receiving his doctoral degree in organic chemistry from the Polytechnic Institute of Brooklyn, New York. He expects to make his future home in Florida.

Herbert Kaufman Retires

Herbert A. Kaufman, assistant to the vice-president of Abbott Laboratories, has retired after over 40 years with the company. He joined the company in 1920 as a chemist and plant operator.

W. F. Kammerer

William F. Kammerer, Chicago branch manager for George Lueders & Company, Inc., died on May 2.

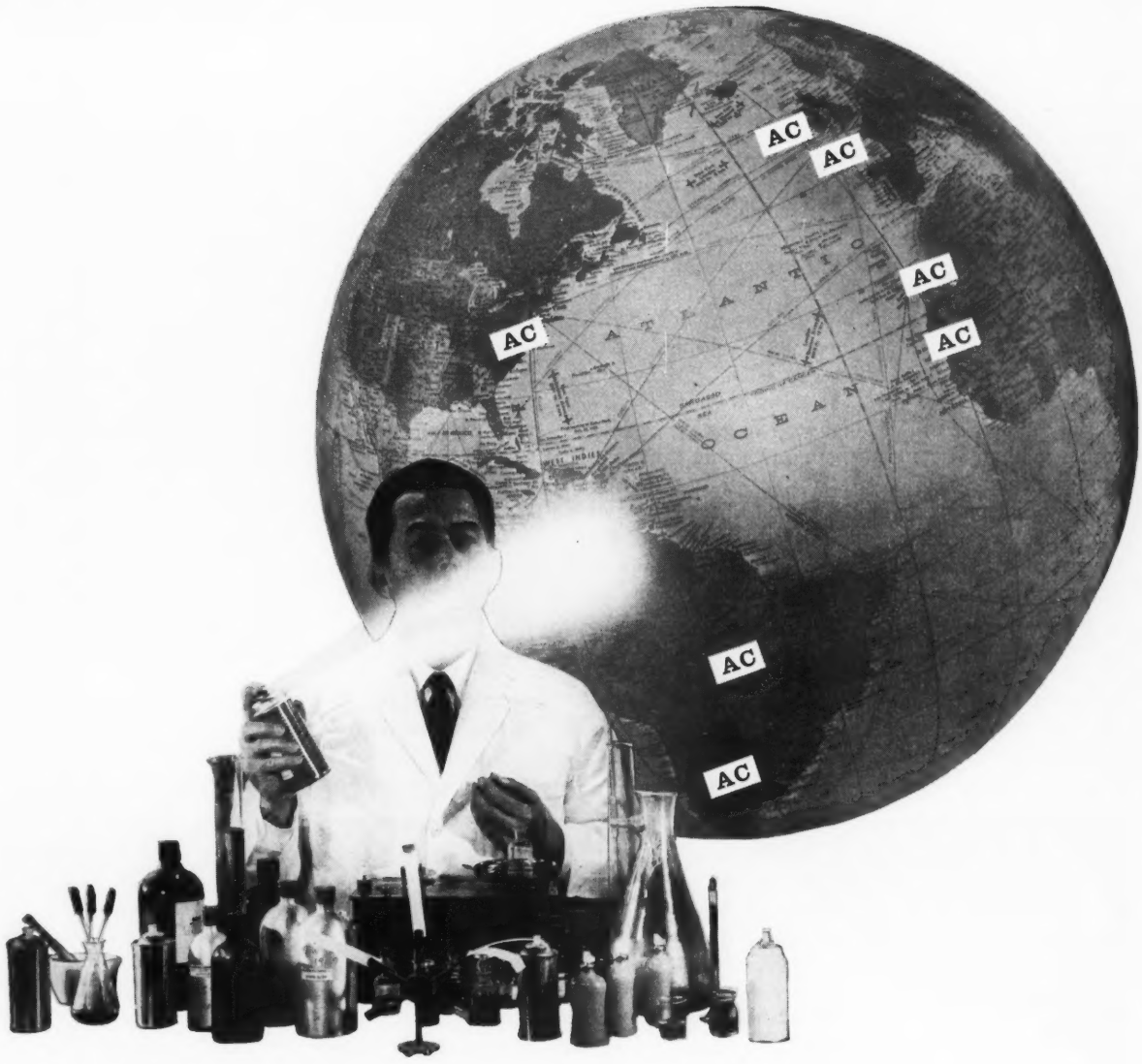
Mr. Kammerer joined the Lueders organization in 1923 and was named Chicago branch manager in 1930.

T. C. Sheffield

Thomas C. Sheffield, vice-president of the Sheffield Tube Corporation, died April 7, of a heart attack. He was 50 years old.

Mr. Sheffield was the son of L. Tracy Sheffield of New London, Conn., president of the firm. An uncle, W. Kyle Sheffield, is executive vice-president of the corporation.

Thomas Sheffield had been in charge of Sheffield's western tube sales for 14 years. He was active in many phases of West Coast packaging, including membership in the Pharmaceutical Manufacturers Association, California Packaging Club, California Cosmetic Association, QSAD Centurions and other business organizations.



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(*Continued from page 768*)

Combinations of tested, standard raw materials will give performances not in line with the individual materials. Therefore, there is no sure method of predicting the performance of any soap fragrance. The perfumer must laboriously test each new product he makes.

The design of a soap fragrance presents acute problems in the matter of price. Invariably a good part of the original "extract" fragrance type must be sacrificed in order to meet the stringent low cost of the soap product. It is exceedingly difficult for the perfumer to achieve even a passable reproduction of the desired fragrance type because of the limitations on his raw materials, which are established by the requirement of low price. It takes tremendous ingenuity and effort to create a soap fragrance of consequence that also meets both price and technical requirements.

The problems of shampoos are parallel to those of soap. Stability problems and the lasting power of the fragrance are somewhat more acute in shampoos. The emulsions of some of the lotion-shampoos are occasionally disturbed by the fragrance oil used.

Lotions sometimes present peculiar problems in the "upsetting" of a fragrance effect, because of the distribution of the fragrance oil between the oil and aqueous components. With regard to fragrance, a lotion can be regarded as an exaggerated cosmetic.

The modern detergents which are replacing soaps in many household uses, present even greater difficulties in design and odor stability. It is difficult to create a detergent fragrance that will meet the stringent cost limitations and still be stable enough to weather the long and intense "life" tests.

The difficulty of perfuming detergents is readily observed in the great number of jasmin-lilac fragrances now in use. This particular fragrance class is readily adaptable for detergents because it is frankly an inexpensive item employing a liberal quantity of the cheaper raw materials like benzyl acetate and terpineol, both of which have long records of good stability and performance in soap products.

In the last ten years, another chore has been put on the perfumer: industrial fragrances. While, in a manner of speaking, this may be considered as an extension of soap-detergent chemistry, it poses extreme problems of cost, technical compatibility, and odor performance.

It seems that the variations of projects in this new field never end—they demand more and more technical "savvy." In some firms this branch of perfumery has become so great that a complete separate laboratory section and staff are maintained to specialize in industrial applications. Often, as much chemical research as fragrance work is carried out.

The modern perfumer has only to spend many

(*Continued on page 808*)

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Management Forum

BY FRANCIS CHILSON, Sc.D.
PROFESSIONAL ENGINEER

Analyzing Financial Statements

To help those of you who are not accountants and have had little experience with balance sheets and profit and loss statements, I'd like to give a few very elementary pointers, which may be especially helpful to those who own stock of your own or other companies. Perhaps you may find here also a way to judge your own company's performance.

The first thing you will notice on the "assets" side of a balance sheet is "current assets." These include cash, investments in government and other securities, accounts and notes receivable, and inventories. Cash you don't have to worry about. But you do have to worry about the liquidity of the securities owned, other than government bonds. The security account may contain the stock of moribund companies. So, if the securities owned represent, a sizable investment, you had better find out how salable the securities are.

Compare the total of accounts receivable with the net sales reported on the profit and loss statement and, if the ratio of sales to accounts receivable is 10 or 12 to 1, you've nothing to worry about. But, if the accounts and notes receivable are a substantial portion of net sales, collections are poor and you had better be suspicious.

Inventories are worth what they cost to the manufacturer who can use them in his business. On the general, or forced-sale market, inventories usually are worth little more than 10 per cent of their book value. For this reason I have always thought it a mistake to list inventories as a current asset. Special deals and Christmas sets are stacked up months before they are sold—the manicure set business is a good example. In the drug industry it used to be the practice to age cascara bark for one or two years before using it. Such inventories are by no means current. However, if you compare inventories with net sales, and the ratio to sales is low (and this will vary from industry to industry), you have nothing to worry about But if inventories are a high proportion of sales, watch out.

I think inventories should be listed separately and not included in current assets. No accountant will agree with this. But an accountant's judgement of inventories cannot always be depended on. The MacKesson & Robbins case during the Thirties proved that. I have repeatedly encountered situations where the damnedest lot of obsolete and worthless materials and finished stock were carried in current inventories; consequently, I am naturally suspicious of inventory values. The SEC should make all companies list inventories as raw materials, goods in process, and finished stock. Moreover, it should force companies to break inventory figures down by age, at least by quarterly periods.

The next figures to compare are the total of current assets and the total of current liabilities. Current assets should exceed current liabilities in the drug and cosmetic industries by at least three to one. The more, the better. Now, by deducting current liabilities from total current assets, you will get the "net current assets" or working capital of the business. It is important at this point to determine the net "quick" assets. This is done by subtracting total net liabilities from the total of cash and accounts receivable. A sound company will always have a substantial sum left over as net quick assets.

Now, if the financial statements you are examining contain, on the liability side, outstanding bonds of any kind, preferred stock, long-term loans or notes payable, add all these together and deduct from the total of current assets. The net assets of a sound company will always be substantially larger than its fixed or long-term debt. Preferred stock is included in this computation because it is preferred not only as to dividends but assets as well.

Another important fact to ascertain is the net book value of the common stock you are presumably holding. This is done by deducting from total assets the value given patents and good will, which are not usable assets in current operations. From the net

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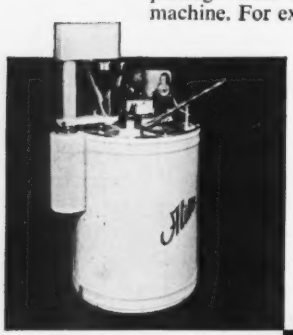

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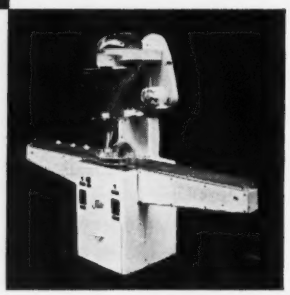

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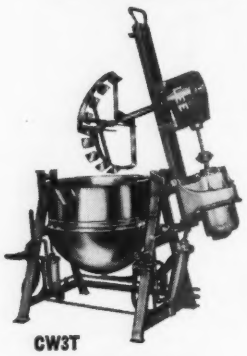

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Center-line Scraper Agitator Kettle
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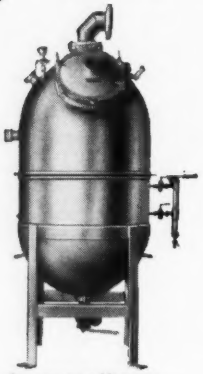
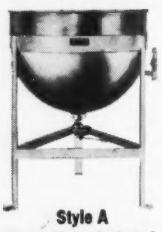
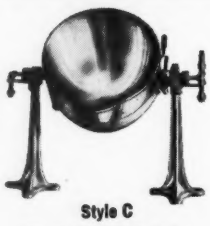


Pressure or Vacuum Reactors
to 500 gal.



Style A
Two-thirds Jacketed
2 to 1500 gal.



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amount, deduct the total of current liabilities, bonds, notes payable, preferred stock, long-term loans, etc. Then, divide the net balance by the number of outstanding shares of common stock, to get the net book value per share.

In this wild age the net book value of a stock is only an index figure and bears no relation to the market value of a stock. Stocks these days are valued by the investing public on its guess as to future earning potential of particular companies, that is, "growth," and also earnings. Stocks are currently being sold at prices ranging from 10 times current earnings to 30 or 40 times such earnings, and these prices may be 5 or 15 times book value. Sometimes high market prices are had for stocks that have had no earnings at all but have a speculative potential. The point to remember is that, if a company's book value is increasing year by year, it is in a healthy financial state, but if it is declining, watch out!

It is common practice to list on a balance sheet the value of the common stock at its par value. The book value of the stock is the total par value plus reserves and earned surplus. Reserves represent earnings set aside to provide for replenishment of wasting assets, as, for instance, depreciation reserves. Generally speaking, this figure is totaly inadequate to replace plant and equipment in a steadily rising market, but the Internal Revenue Service limits the amount that may be charged off for wear and tear. So, if you really want to get into the guts of a statement, double the reserves figure and adjust the current earnings accordingly. The surplus figure represents the accumulation of earnings not paid as dividends and kept for the further development of the business.

The profit and loss or income statement is easier to read because it is a more straightforward document than a balance sheet. It shows what income was produced by sales and from other sources such as rents, royalties, interest on bonds, and dividends earned on securities owned by the company.

From the total of this net income, it is necessary to deduct the operating costs of the business. The first item, "cost of sales," should include only the total cost of materials used, plus factory overhead expenses and factory labor. Unfortunately, a lot of companies load this figure with expenses that do not belong in cost of sales, or as otherwise known, "factory cost." Shipping and sometimes research expenses are dumped into this account.

Other categories of expense that must be deducted from net income are: administration expenses, marketing, distribution and shipping expenses, research expenses, taxes paid, etc. When these expenses are deducted from income, interest charges on bonds, loans, and notes must then be deducted. Next, provision must be made for Federal income taxes. The balance left after taxes have been provided for is available for dividend payments, first on preferred stock, then on common with the balance being added to the earned surplus account.

It is difficult to judge the merit of a profit and loss account unless comparisons are made with the long-term financial results of other companies operating in the same industry. A 5 per cent net return on sales before taxes might be considered normal for some industries, while others would earn 20 per cent. It's your own industry comparison that counts.

As I said above, accountants will think this method of analysis very crude. But it has suited me as an investor and I have used the same approach in sizing up the financial statements of prospective clients. I think that every company should publish for its key employees long-term, simplified financial statements in a form comparative with those of its principal competitors. Since this may be too much to expect, I think every young executive should make such a comparative statement for himself. After all, his future is involved more vitally than the future of stockholders. He should know whether he is riding a race horse or a spavined plug.

More on the Practice of Medicine

To the Editor: "Although Drug and Cosmetic Industry has no column devoted to reader opinion, I feel justified in publically expressing my displeasure with Francis Chilson's editorial advocating socialized medicine which appears in your February issue.

"I understand that Dr. Chilson specializes in industrial management and engineering and that he speaks with considerable authority in his field. To this extent his monthly column is instructive. His qualifications in the area of medicine appear less certain. Certainly his personal displeasure with five or six specialists who failed to diagnose a 'simple ailment' and the combined experience of 'all his friends' fails to substantiate an informed background for editorial comment in favor of socialized medicine. The fact that his wife is a registered nurse who was 'once superintendent of a small hospital herself' adds little by way of qualification. The structure of medical practice and institutional care in this country is too complex a subject to be dealt with frivolously and the insertion, by Dr. Chilson, of his personal peeves and political views in a column devoted to industrial management appears rather presumptuous.

"His principal criticism appears to be that American physicians are incompetent, lacking in thoroughness, and devoted to making money without allotting adequate time for the care of their patients. All this he claims has been rectified by socialized medicine which 'is working very well in England' where 'doctors and pharmaceutical manufacturers alike are making more money than they ever did before its inception, in spite of what we would regard as onerous restrictions.' The implication appears to be that English physicians not only earn more money under their new system, but that they now have more time to spend with their patients and have become more competent and thorough than their American col-

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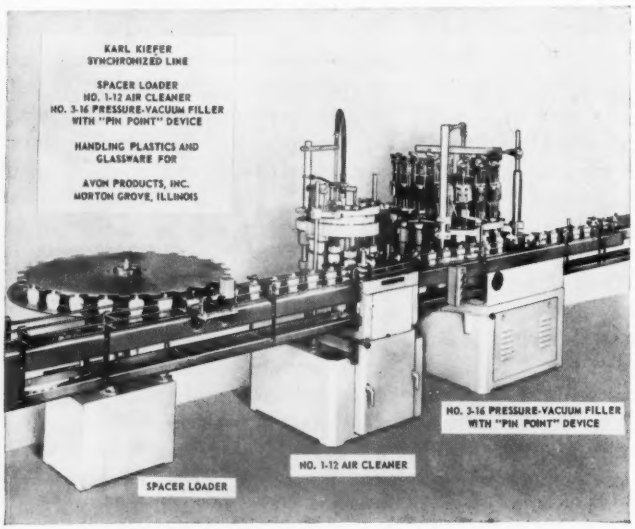

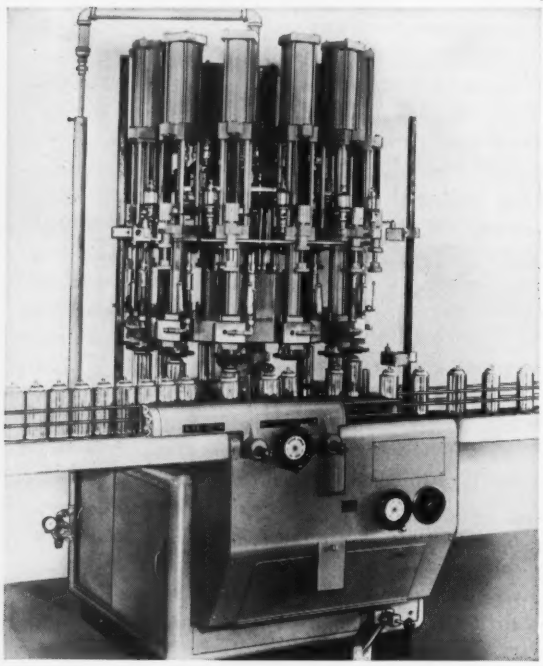

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leagues. It would be interesting to have Dr. Chilson substantiate these insinuations. It is by reason of our unrivaled leadership in medical education and research that our training facilities attract medical personnel from all over the world, while our own standards are being continuously improved. Regarding the drug industry, to which he refers tangentially, one might take note of the fact that we probably outstrip the rest of the world combined, in product development and basic research.

"Dr. Chilson goes on to suggest that because government regulates public utilities it should regulate doctors and hospitals. Why stop there? If this principle is sound why not have the government control all our professions and major industries? I suppose it depends on how much faith one has in a free enterprise economy.

"Dr. Chilson's reference to the A.M.A. as a 'tightly closed union' suggests an emotional evaluation instead of a studied appraisal. As unions go, it probably would be the only one without a five-day week and an eight-hour day. This fact would be better appreciated by Dr. Chilson had he had the occasion to call upon one of these 'union members' to treat his 'simple ailment' at an obscure hour when most people are resting from their daily labors. He suggests that hospitals are 'mis-managed' and render 'disgraceful treatment.' In contrast with most physicians, I doubt that he has contributed much free time with a view to enabling these instituions to provide better care. I am not adverse to constructive criticism for any area of our economy and I cannot doubt that mounting hospital costs, which take by far the largest proportion of each medical dollar, would benefit greatly from improved managerial methods and procedures. It is to such a constructive end that I would commend Dr. Chilson's specialized talents.

Very truly yours,
Seymour M. Gluck, M.D.
Far Rockaway, N. Y."

I anticipated that my comment on socialized medicine would elicit adverse comment from doctors. No one likes to have his profession criticized and I erred in the way I did it by relating my personal experience with incompetent doctors. I should have stated that, during my frequent travels in all the states over the past several years, the universal criticism of medical practice that I have heard from people of all social and economic stratas, is that "the doctor's diagnosis was wrong." And, of course, when the doctor is wrong enough, he has the advantage of being able to bury his mistakes without any worry that his competence will be successfully challenged in the courts or questioned by his professional colleagues.

To be fair to doctors generally, one must admit that the enormous progress in medicine has, paradoxically, made it difficult for medical students to become good diagnosticians, because they must learn from books the symptoms of diseases that once were endemic, but which in their practices may seldom if ever be encountered. Moreover it must be stated, in all fairness, that the methods and tools of diagnosis have indeed improved enormously, but, as one very prominent and able physician said to me recently, "The trouble is that too many doctors will not take the time to use them."

I agree with Dr. Gluck's view that any form of socialism is anathema. But the welfare of the public is paramount, and, unless the AMA does something soon to clean its own house, socialized medicine will be the inevitable result. We have the Interstate Commerce Commission because the railroads would not clean up their practices. We have rate regulation of public utilities for the same reason. We have the FDA because, in the drug industry and in the food industry, we would not clean up our practices until we were forced to.

It is a pity that people are like this but they are. And undoubtedly the monolithic AMA, like all other special interests, will continue its traditional policy of tolerating money-hungry incompetents, and of opposing progressive medical legislation until it is too late.

One way to allay criticism and improve medical practice would be for the AMA to establish, through the county medical societies, maximum rates for all types of medical services. Each county society should also police its own members and eliminate the incompetents. Each county society should have a board of review to which a patient who has suffered from the effects of incompetence, malpractice or gross overcharging can appeal for justice.

The American Bar Association very wisely is taking steps to protect the clientele of its members against dishonest lawyers. The Bar Associations of several states already have created funds out of which to recompense persons who have been cheated by any of their members. And, of course, the lawyer caught cheating is immediately disbarred from practice. The ABA always has promptly disbarred lawyers found guilty of violating the code of ethics upon which the Association stands. A similar practice is recommended to the AMA.

One-Man Drum Lift

Sterling Fleischman Co., Broomall, Pa., has developed a portable power-operated, one-man drum lift that raises steel or fibre drums from floor to bung in 30 seconds. With 8-inch diameter spark proof wheels, it is available in A.C. or battery-operated power packs.

Demineralizers With Lucite Columns

Barnstead Still & Sterilizer Company, 177 Lanesville Terrace, Boston 31, Mass., is using Lucite columns in its line of industrial demineralizers up to 150 gallons per hour. The Lucite columns permit the operator to observe the backwashing operation and watch the condition of the resins at all times.

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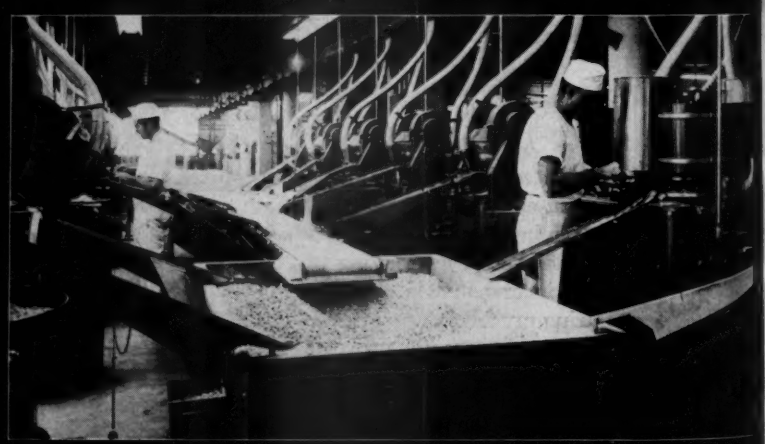

Millions of TUMS are produced daily by this battery of Stokes high-speed rotary tabletting machines at the Lewis-Howe plant in St. Louis. The tablets are discharged into hoppers which automatically feed into packaging machines on the floor below.

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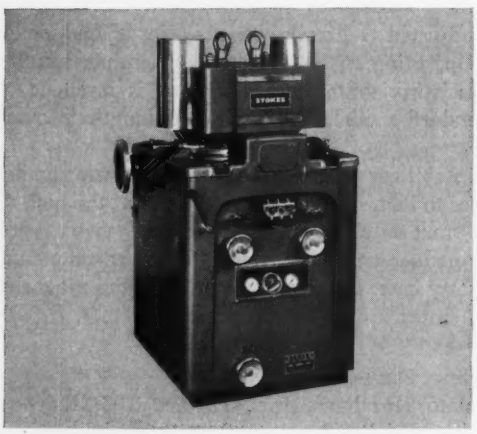
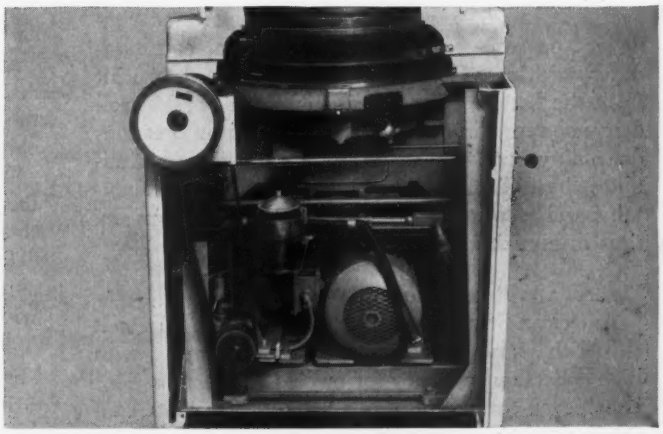
Pacesetters in this new production facility are Stokes High-Speed Rotary Tabletting Machines. Creating new standards in precision, compactness, and simplified operation, these high-speed presses produce tablets of exceptional hardness and uniformity at extremely high production rates. Rejects are virtually eliminated.

The Stokes Model 533 Press is proving particularly well suited to automatic, high-speed production. Lewis-Howe personnel find the 533 easy to operate . . . all controls are operator-oriented, and adjustments can be made while the machine is running. Hydraulic overload protection and automatic self-lubrication minimize maintenance and provide years of trouble-free operation.

These and the many other advanced features of Stokes high-speed tabletting machines can bring new economies to your tabletting operation. To get complete technical details and prompt application assistance, consult Stokes Advisory Service. For more complete performance data on the Stokes Model 533, write for Bulletin 110.



To simplify set-up and operation on the Stokes high-speed Model 533, all controls and indicators are grouped on a single panel.



Drive for the Model 533 is contained in the base of the machine, readily accessible for servicing, and saving up to 50% floor space.

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Eriez Manufacturing Company, 1945 Grove Drive, Erie 6, Pa., has a new high-speed vibratory feeder that works at speeds up to 60 per cent faster than standard models. A variety of lightweight, bulky materials may be moved at speeds up to 60 feet per minute by the A.C.-operated feeder. Rate of feeding, spreading, agitating or heating can be precisely adjusted with the variable auto-transformer type controller.

Automatic Duplex Heat Control

Modern Laboratory Equipment Company, Inc., 1809-11 First Avenue, New York 28, N. Y., has designed a new safety control system that makes possible automatic protection of processed material from heat destruction in the event of failure of the master control. The Modernlab Automatic Duplex Heat Control has a safety twin that takes over if the main control fails and controls only a few degrees above the main control. In addition, a limiting control is provided which will shut off the oven in the event of flash fire or if its safety setting is bridged. The oven will not operate unless the limit control is set above the 5 dual control system.

Rear blowout safety panel is provided for the protection of personnel. Automatic pre-ventilation feature is incorporated to allow initial ventilation of interior before heaters are energized. Specially designed heaters are explosion-proof, totally enclosed.

Front-End Case Coder

Thomas Engineering Co., Inc., 9257 N. Laramie Ave., Skokie, Ill., has a new machine, the Teko Model 500 Coder, which utilizes Porelon as its inking agent. It can be used on inclined or powered conveyors, on case sealers or other carton or case handling machines. The coder may be mounted to print from the bottom or top positions. Each Porelon roll delivers approximately half a million impressions depending upon type size. The use of Porelon eliminates the difficulties with fluid inks, solvents, fountains and felts; the cylinder cannot drip or gum up, thus minimizing cleaning and maintenance.

Electrostatic Precipitator

American-Standard Industrial Division, Detroit 32, Mich., has a new electrostatic precipitator with high collection efficiency for any dust collection. This is achieved through use of a flat collector plate containing "pockets" which trap and hold the dust, reducing the chance of re-entrainment.

The unit is of all-welded construction. Structural frames, side casings, end panels and hoppers are made from heavy gauge steel plate.

Processing Vessels

Jones & Hunt, Inc., Gloucester, Mass., has a new line of fiberglass plastic processing vessels which provide corrosion resistance and self-supporting structural strength at low cost. Ten standardized diameters are available with various capacities for 50 to 70,000 gallons. Basic tank is translucent with a molded-in, direct reading gauge.

Dual Filling Machine

Kahlenberg Globe Equipment Company, Box 3636, Sarasota, Fla., has a liquid filling machine equipped with dual pumps, valves and spouts for filling two containers at a time.

The base of the machine housing the driving and indexing mechanism is 12 x 14 x 18 inches. All metal that comes in contact with the liquid is of stainless steel construction. The machine is designed for the use of economical glass syringes of all sizes from 1 ml. through 60 ml., or up to 2 fluid ounces. The production rate is 36 to 60 containers per minute.

Bottle Cottoning Machine

Lakso Company, Inc., Fitchburg, Mass., has a semi-automatic bottle-cottoning machine that will handle a wide range of containers, cotton or similar coil material in lengths up to 7 inches and weights up through 16 grams per yard. The machine is equipped with vibratory feeder screen that automatically sift out chips, broken pieces, and the like, and has a self-contained vacuum unit to draw free powder and dust from tablets. Of stainless steel.

Case Set-Up Machine

Systemation Corporation, 408 Pine Stret, St. Louis 2, Mo., has developed an automatic case set-up, loading and sealing machine capable of handling various sizes of corrugated containers.

The new production machine, the Sysco II, can be easily adjusted to handle various sizes of end-loaded cases. Operating speed is up to 10 cases per minute. A 50-inch horizontal case magazine is provided on the standard model, but additional length is available.

The stabilizer exerts a constant pressure against the cases to insure a continuous supply at the pick-up station and automatically disengages when a predetermined pressure is reached. This prevents damage to any case. An operator can load the magazine without interruption in production.

High-Flow Filter

Purolator Products, Inc., Depart. 203, Rahway, N. J., has developed a high-flow filter designed for "point of delivery" or nozzle-end hose and pipeline installations. The Turbo-monitor contains a stainless steel, cone-shaped, wire cloth filter element which provides effective 10-micron filtration at differential pressures up to 150 psi. Available in 10½, 14½ and 17½ inch lengths, the filters accommodate, at ambient temperatures, flow rates of 300, 360 and 720 gpm, respectively.

(Continued on page 835)

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Perfumer's Shelf

Perfuming Soaps

The stability of various perfume components in alkaline soap mixtures is discussed by W. Eibel (*Dragoco Report* 8:13, 1961). Toilet soaps must ordinarily contain from 0.02 to 0.05 per cent of free alkali for optimum stability on storage. In this range of alkalinity, many essential oils, isolates, balsams, and animal essences, as well as synthetics, are sensitive to oxidation and to light. Nevertheless, with due precautions, soaps may be perfumed effectively.

Even aldehydes may be utilized if they are carefully selected. Aldehydes may change odor if they are converted to hemiacetals by mixing with alcohols. This may often be counteracted by mixing aldehydes with the other perfume components beforehand and adding alcohol afterwards.

Pure compounds in the following categories are stable in soaps: alcohols, including terpene alcohols, ketones, lactones, phenols, and hydrocarbons, with the exception of terpene hydrocarbons. Butyrate and formate esters are not stable to alkali, but isobutyrates keep somewhat better. Impure acetates may lead to the formation of sodium acetate which can form a discoloration product with traces of iron.

Condensation between components of the perfume in the alkaline soap may cause changes in odor and color. These can take place between aldehydes and ketones or methyl ketones, between aldehydes and amino compounds, and between aldehydes and phenols. The use of acetals instead of aldehydes will prevent these reactions, or the other reacting component can be modified to prevent change, as in conversion of phenols to their ethers.

Oils rich in terpenes and sesquiterpenes should be used with care, since they may undergo auto-oxidation with change in odor and color. Oxidation may produce peroxides which adversely affect the soap, and this is especially true with limonene and dipentene. The use of gallates for stabilization may cause discoloration in the presence of traces of iron. Hydroquinone diethyl ether is a useful antioxidant.

Since perfume components are seldom if ever used alone in soaps, it is well to remember that some ingredients protect others from oxidation. Various aromatic alcohols, cinnamic alcohol, benzyl alcohol, phenylethyl alcohol, as well as some terpene alcohols, geraniol, citronellol, are known to be useful in this manner. Resins and balsams, used as fixatives, also exert a protective action. Thus, cinnamic aldehyde and its substituted homologs, anisaldehyde, benzaldehyde, phenylacetaldehyde, will keep well in soaps in combination with other ingredients. The acetals of the unsaturated aliphatic aldeshydes citral, citronellal, hydroxycitronelal, have good stability in soap.

Russian Essential Oils

According to N. Iacobashwili (*P. & E.O.R.* 52:226, 1961) about 30 plants for the production of essential oils are now being cultivated in the U.S.S.R., including some of tropical and subtropical origin. Annual production totals about 1,000 tons and plans call for double this production by 1965.

Most important is coriander seed oil, eight kilos per ton of seeds, obtained by steam distillation. The oil is mobile, colorless or green-yellow, and contain 60 to 70 per cent of dextro linalol, geraniol, borneol, bornyl acetate, thymol, pinene, decyl aldehyde, terpineol, dipentene, phellandrene. Attar of roses is obtained from *Rose gallica*, as much as 1,300 grams being obtained from one ton of flowers, and annual production is several thousand kilos. The Russian oil is light yellow, sometimes with a green tinge, with about the consistency of almond oil at 21 to 25° and solid below 18°. Jasmine oil is obtained from *Jasminum grandiflorum*, the large flower having been introduced into the Soviet Union in 1928 and acclimatized in damp or subtropical regions. The harvest is 3 to 5 tons of flowers per hectare, about 2 to 6 kilos of concrete being obtained per ton of fresh flowers, resulting in an over all oil yield of about one kilo per ton. The oil contains 54 per cent of benzyl acetate, 25 per cent of linalyl acetate, 4.6 per cent of benzyl alcohol, 11.5 per cent of linalol, eugenol 0.7 per cent, jasmone 2 per cent, indol, and traces of methyl anthranilate, acetic and benzoic acids.

Lavender oil is produced from lavender flowers, *Lavandula vera*, the yield on steam distillation being 7 to 16 kilos per ton. The oil contains 30 to 60 per cent of linalyl acetate, 10 to 20 per cent of linalol, and traces of cineol. Clary sage oil is produced from *Salvia sclarea*, steam distillation giving 1.5 kilos of oil per ton of flowers and higher yields resulting from extraction. It consists of 60 to 70 per cent of esters, mainly linalyl acetate, and 10 to 15 per cent of free linalol. Sclareol is obtained from clary sage waste.

Azalea flowers are extracted to yield an oil consisting of 0.5 per cent of a mixture of aldehydes, 2 to 4 per cent of a phenol, 14 per cent of salicylic acid, 13 per cent of a dicyclic sesquiterpene, 12 per cent of a monocyclic alcohol, 7 to 8 per cent of benzoic acid, 22 per cent of a crystalline substance and 27 per cent of a neutral component after saponification. The oil has a delicate odor and fixative properties.

Tuberose oil is obtained from *Polianthes tuberosa*, oil of acacia from

Robinia pseudoacacia, false jasmine from *Philadelphius coronarium;* oil of labdanum from the flowers and leaves of *Cistus creticus*, neroli from the flowers of orange, tangerine, lemon, and bitter orange trees, *Citrus aurantium, Citrus nobilis, Citrus limonum, Citrus bigaradia.*

Oil of geranium is obtained by the steam distillation of the exposed part of the *Pelargonium roseum* plant, the yield being 1 kilo per ton of green material. The oil is a green liquid with a rose-like odor. It contains 64 to 75 per cent of alcohols, of which 50 to 55 per cent is citronellol and up to 22 per cent geraniol.

Peppermint oil is obtained from *Mentha piperita*, the yield being about 10 kilos per ton of dry leaves. Steam distillation gives the crude oil which is rectified; it is colorless or green yellow and contains at least 50 per cent of menthol and not more than 18 per cent of menthone.

Oil of basil is extracted from *Ocimum gratissimum*, one ton of green plant yielding 3 to 5 kilos of oil which is then steam distilled. A light and a heavy oil are obtained, the light oil containing 40 to 70 per cent of eugenol while the heavy oil contains 70 to 95 per cent of eugenol. The non-phenolic portion of the basil oil includes eudalene, santenene, cadalene and eugenol ether.

Steam distillation the green parts of patchouli, *Pogostemon patchouli*, gives 2.5 kilos of oil per ton. The oil is thick, with a green yellow color, and contains patchouli alcohol, eugenol, benzaldehyde, cadinene, and azulene.

Russian lemongrass oil, from the steam distillation of *Cymbopogon* citratus, contains up to 85 per cent of citral and up to 20 per cent of decylic aldehyde, 1.5 per cent of nerol, 3 per cent of geraniol, 8.5 per cent of myrcene, and 5 per cent of methylheptenone.

Various eucalyptus oils are produced. *Eucalyptus citriodora* yields up to 4 kilos per ton of citron eucalyptus oil, containing up to 95 per cent of citronellal, free and esterified geraniol, citronellol, etc. *Eucalyptus globulus* yield 10 kilos per ton of an oil containing up to 55 per cent of cineol, along with pinocarveol, capraldehyde, valeraldehyde, globulol, and pinene. The oil from *Eucalyptus viminalis* (4 kilos per ton) contains up to 65 per cent of cineol, 5 per cent pinene, and borneol, globulol, isoamyl alcohol. The leaves and green parts of *Eucalyptus cinerea* yield 13 kilos of oil per ton and it contains 59 per cent of cineol. *Eucalyptus macarthuri* oil contains up to 75 per cent of geranyl acetate, along with geraniol, pinene, etc.

Oil from the leaves and young shoots of bitter orange and *Citrus bigaradia* is obtained by steam distillation and the yield is from 2 to 4 kilos per ton; it contains up to 60 per cent of linalyl acetate, 2 per cent of nerol, 50 per cent terpenes, and some geraniol, geranyl acetate, and methyl anthranilate. *Citrus limonum* shoots, leaves and green fruit yield 1.5 to 3 kilos per ton of an oil containing 6 per cent of citral, linalol, geranyl acetate, limonene, geraniol, terpineol acetate. The peel of the fruit of the mandarin tree *Citrus nobilis* yields 10 kilos of oil per ton and the oil consists mainly of limonene. Extraction of the peel of the bitter orange gives 20 kilos per ton of an oil containing 96 per cent of limonene along with 1 per cent of decylic aldehyde. Orange peel oil is obtained in yields of 18 kilos per ton.

The vetiver volatile oils are obtained from the dried roots of *Vetiveria zizanoides* by steam distillation which produces 30 kilos per ton. Oil of orris obtained from *Iris florentina* by steam distillation and extraction contains up to 85 to 90 per cent of myristic acid, 10 to 15 per cent of irone, decylic and nonylic aldehydes, benzaldehyde, and furfural.

Hyacinth

Only one species of hyacinth, *Hyacinthus orientalis*, is of real interest to the perfumer, according to L. Stoller in *The Givaudanian*, although *Hyacinthus mon scriptus* has been treated to extract its oil. The absolute or concrete usually obtained has a waxy consistency and its color varies from greenish brown to dark brown. Its constituents include phenylethyl alcohol, eugenol, methyl eugenol, and cinnamic alcohol.

Since extraction of the oil is limited, reproduction of the hyacinth odor is in the hands of chemists and perfumers. Compounding utilizes not only natural components of the hyacinth complex, but also a number of useful synthetics. These include phenylacetaldehyde, an indispensable component of hyacinth bases, hydratropic aldehyde and phenylpropionaldehyde. Cinnamic alcohol is a fixative and contributes a floral note; bromstyrol has a strong, leafy hyacinth odor and is stable in soaps. Other useful additives include phenylethyl alcohol, benzyl acetate and butyrate, hydroxycitronellal, and a number of specialties.

Chua Oil

Shal resin, obtained from *Shorea robusta*, is one of the important resins of commerce available in India, according to S. K. Paknikar and S. C. Bhattacharyya (*P. & E.O.R.* 52:233, 1961). The resin oil, known locally as chua oil is extensively used in India as an ingredient of perfume preparations and for flavoring tobacco. The resin and the oil are reputed to have various medicinal properties.

Chua oil, obtained by the dry distillation of the resin, contains 1 per cent of acid ingredients, 3 per cent of phenols, and 96 per cent neutral substances. The neutral fraction was investigated by fractionation and column chromatography and the presence of the following ingredients confirmed: p-cymene, ocimene, tetrahydro-γ-cadinene, four different sesquiterpene hydrocarbons, a C-14 ketone, cadalene, 1,6-dimethyl naphthalene, 1,2,6,8-tetranaphthalene, and a new naphthalene hydrocarbon. The ketone appears to be the only oxygen-containing substance present in appreciable quantity and the oil does not contain alkoxyl compounds.

Grapefruit Peel Tincture and Syrup

A grapefruit peel tincture was prepared by N. H. Franke and J. L. Burge (*Amer. Journ. Pharm.* 133: 63, 1961) by maceration of the grated outer yellow peel of the fresh fruit; a grapefruit syrup was prepared from the tincture, using heavy magnesium oxide as the filtering agent. Organoleptic tests indicated that the syrup compared favorably in taste preference with five other vehicles which had ranked high in taste preference tests conducted by other workers. Grapefruit syrup also appeared to have a high value in disguising the salty taste of ammonium chloride but was of little value in disguising the bitterness of quinine hydrochloride.

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Available on request—"Panthenol in Cosmetics", by S. H. Rubin, L. Magid, and J. Scheiner, reprinted from Proceedings of the Scientific Section of The Toilet Goods Association, Number 32, December, 1959.

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Compounder's Corner

Non-Aqueous Aerosol Foams

Aqueous aerosol foams have some disadvantages. Their stability is limited since water evaporates relatively quickly. In some cases, active ingredients may not have sufficient solubility in the aqueous phase. There is also the possibility of corrosion from the water present.

Thus for certain applications nonaqueous foams may be preferable, according to P. A. Sanders (*Chem. Prod.* 24: 105, 1961). These foams are prepared with polyhydric alcohols such as glycerine and glycols, or with glycol derivatives, in place of water. Extremely stable foams may be prepared because the glycols evaporate very slowly. The nonaqueous foams should be particularly applicable to pharmaceutical and cosmetic products, such as vaginal foams, suntans, burn ointments and antipersperants. In such formulations, the longer foam stability and possibly better solubility of some active ingredients, may be factors of considerable importance.

In appearance, the foams obtained from the nonaqueous systems resemble the aqueous foams from typical aerosol shaving lather formulations. The characteristics of the foams from nonaqueous systems may be varied widely to suit any particular application, depending upon the choice of surface active agent, the type of propellent, and the type of glycol or polyhydroxy compound as the base. Foam stability, for example, may be varied to obtain quick-breaking foams or foams with high stability. Similarly, properties such as foam density and wettability may be varied at will.

The more stable foams from the nonaqueous systems appear to have a greater consistency than the aqueous shaving lather foams. In some cases, nonaqueous foams may approach creams in their consistency. Microscopic examination of such foams indicates that the cell structure appears to be smaller and much more uniform in size than that of the aqueous foams.

The glycols or glycol derivatives used as the base for the nonaqueous foams have relatively low volatility and the foams from such systems do not dry rapidly. This must be borne in mind when formulating products with the nonaqueous systems.

The properties of the foams from nonaqueous systems are a function of the type of glycol or glycol derivative, the type and quantity of propellent, the surface active agent, and the other additives that may be present.

Aerosol Corrosion Inhibitor

Nitromethane was found to be the most effective of nearly 300 compounds tested for stabilizing alcohol-based aerosol products against metal container corrosion, according to a paper presented at the semiannual meeting of the Chemical Specialties Manufacturers Association. At the meeting last year, DuPont research personnel reported that deterioration of color, odor, and container condition of aerosols formulated with alcohol had been traced to the reaction of ethyl alcohol and propellant 11, trichlorofluoromethane. In this latest paper, Dr. Frank A. Bower and Lawrence J. Long of the DuPont Freon Products Laboratory described their work in finding inhibitors for the reaction. As a result of the work, DuPont has introduced Freon-11 S propellant, using a small proportion of nitromethane for inhibition; a patent on this use has been applied for.

Possible inhibitors to be tested first had to be colorless, odorless, volatile, nontoxic, and without harmful side effects. They were first added to the extent of one-half of one per cent to the mixture of propellant and alcohol and containers stored at 194° F. for 24 hours. Compounds that qualified under this screening test then underwent extended storage at 100° F. The original 300 compounds were narrowed down to 25 for extended testing and these resulted in eight that gave the desired stability to the formulations. Nitromethane was finally selected as best meeting all requirements.

Storage tests showed that untreated hair spray formulations can be expected to show a 60 per cent failure rate within two months because of objectionable odor. With added nitromethane, no failures were observed after eight months. Other aerosols containing alcohols were similarly improved. Toxicological studies showed that the mixture has the same low level of toxicity as the original Freon-11.

Thickening and Stabilizing Hydrogen Peroxide

Viscous creams prepared by incorporating a stabilized solution of hydrogen peroxide in a cream base are useful for bleaching hair. They do not run off the hair and drip like ordinary peroxide solutions and the fatty components of the cream base have a protective action on the hair. The preparation of these creams is described in French Patent 946,665. The acid stabilized peroxide solution is used with an acid emulsifier such as glyceryl monostearate containing Sapamine. A typical formula consists of acid stable glyceryl monostearate 20., oleic acid 1.0, citric acid 0.5, 60 volume hydrogen peroxide 30.0, water to make 100 parts. Ammonia is added to the cream just before it is applied to the hair.

According to British Patent 827,-331, stable and viscous solutions of hydrogen peroxide can be prepared with Carbopol 934. The polymer is neutralized with ammonia or a suitable amine to pH 3.0 to 8.0 and stabilizes the peroxide for long periods of time without additional preservative. To a solution of 0.8 parts of Carbopol 934 in 100 parts of water, add 0.4 parts of concentrated ammonia solution and 3 parts of 35 per cent peroxide solution. The resulting composition is a gel.

The use of PVP to stabilize solutions is the subject of German Patent 968,992. A solution of peroxide alone was 96.5 per cent decomposed after nine hours on the water bath while in the presence of 1.5 per cent of PVP, decomposition took place only to the extent of 26.4 per cent.

A bleach solution containing a wetting agent and a little lactic acid along with the hydrogen peroxide lost a considerable proportion of its activity; addition of PVP resulted in notable stabilization.
—*Schimmel Briefs,* No. 311.

Safe Insecticide

A newly released insecticide called butonate is considered one of the safest available for household use; it controls houseflies, roaches, mosquitoes and other annoying bugs. It is non-staining and has an inoffensive odor. License to manufacture and distribute the material has been granted by the Wisconsin Alumni Research Foundation to Prentiss Drug and Chemical Co. of New York.

Gantrez AN Water-Soluble Resin

The Commercial Development Department of General Aniline & Film Corporation announces the availability of the first of a series vinyl ether polymers and copolymers, to be sold under the trademark Gantrez. The AN resin is a water-soluble copolymer of vinyl methyl ether and maleic anhydride (PVM/MA) and is useful in adhesive, coating, textile, soap, detergent, paper, leather, latex polymerization, cosmetic, oil production, photo-reproduction and numerous other chemical processing and industrial applications. It is available as low, medium, and high viscosity grade and is a white, free-flowing powder soluble in water over the entire pH range and in many organic solvents. Aqueous solutions tolerate most inorganic salts without "salting out" and the polymer is compatible with most water-soluble gums, resins and common plasticizers. The resin is a thickening agent and protective colloid and films deposited from unmodified solutions are clear and tack-free, with high cohesive strength.

Enteric Coating

Eastman cellulose acetate phthalate has been used for over a decade to produce smooth, attractive, enteric coated tablets. Coatings are easy to apply with conventional equipment. Tablets should be pressed with deep concave punches, since this shape requires a minimum of coating material and has no sharp edges as weak spots in the coating. For other shapes, the tablets should be tumbled in the coating pan to abrade away the sharp edges and the dust removed.

In the so-called shot technique of coating, the solution may consist of 12.0 grams of cellulose acetate phthalate, 3.0 grams of diethyl phthalate as the plasticizer, 42.5 grams of ethyl acetate, and 42.5 grams of isopropanol. Usually 10 to 30 coats give good enteric properties and the amount of solution will depend upon the tablet size. For six grain tablets, 5 to 8 ml. of coating solution are used per coat for each 1,000 tablets. The pan is rotated, the solution is added and the tablets are stirred and allowed to tumble until the solution has spread uniformly over the entire surface. The solvent is evaporated by means of air with only enough heating to prevent excessive cooling and the process is repeated for the proper number of coats. Clumping may occur after the application of several coats, and may be overcome by raising the air temperature somewhat. Amounts of coating solution may be reduced for later coats. Clumps may also be broken up by the use of a trace of magnesium stearate powder, but this may cause pinholes in the coating.

For the spray method of coating, the solution is diluted with an equal volume of solvent. Smooth, powdery tablets can be coated better when an undercoat is applied.

Preservative Action

Methyl, ethyl, propyl, and butyl parabens interacted with various nonionic macromolecules frequently found in cosmetic and pharmaceutical formulations. In general, the binding tendency which the parabens exhibited for the various macromolecules increased with the molecular weight of the paraben according to S. M. Blang and S. S. Ahsan (*J. Pharm. Sci.* 50: 441, 1961). Thus, the strongest complexing tendency was exhibited by butylparaben, followed by propylparaben > ethylparaben > methylparaben. The hydrophile-lipophile balance of the macromolecules strongly influenced the binding tendency which the parabens exhibited for them. The parabens interacted to a greater extent with polyoxyethylene ester type macromolecules such as Tween 80 and Myrj 52 than with hydrophilic macromolecules like polyethylene glycols 4000 and 6000 and polyethylene polypropylene glycol.

Pigment Tablet Coating

A number of attractive claims are made for the use of stock suspensions of pigments in syrup for coating tablets according to the method of U. S. Patent 2,925,365. The pigment mixture, Velo, is available from F. G. Okie, Inc., Ambler, Pa., under license from Smith Kline & French Laboratories.

In the standard coating procedure, the core must be sealed, rounded, and smoothed before applying color coats; by the new procedure, the pigment suspension is applied directly after sealing and serves as a smoothing coat, cutting production time by as much as 50 per cent. Moreover, color matching is simplified, new shades can readily be devised, and light stability, depending upon the nature of the lake, is very good.

Baymal Colloidal Alumina

Baymal colloidal alumina has been introduced by the DuPont Industrial and Biochemicals Department as a product with great versatility. It is a white, free-flowing powder, consisting of clusters of minute fibrils of boehmite alumina, A100H.

It is water-dispersible, swelling in water to form a stable colloid; dispersions evaporate to leave a heat-stable film. Extremely small fibrils of Baymal take on a positive charge in water and are substantive to many surfaces. The product is both hydrophilic and organophilic so that it can act as an emulsifier and a thickening, dispersing, and suspending agent in both water and in water-alcohol systems. Its toxicity is low and Food and Drug Administration applications have been made for use in cosmetics and pharmaceuticals.

A four per cent dispersion of Baymal in water is either very fluid or a paste, depending upon pH; the paste is highly thixotropic. Among suggested applications in cosmetics and pharmaceuticals are the improvement of moisture resistance of hair and hand preparations, in the formulation of emulsions, as an antiperspirant, and as a suspending agent.

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PHARMACEUTICALS

Tandearil (Geigy) is an oral nonhormonal, anti-inflammatory agent for the treatment of rheumatoid arthritis containing 1-phenyl-2-(p-hydroxyphenyl)-3, 5-dioxo-4-n-butyl pyrazolidine-monohydrate. It comes in tan, coated tablets of 100 mg. in bottles of 100 and 1000.

Micrin (J&J) is a new oral antiseptic, combining the new antiseptic Dequalinium and cetyl pyridinium chloride, that both kills all harmful germs commonly found in the mouth and throat and prevents growth of new germs for 12 hours. It also has a soothing effect upon raw or irritated areas of the mouth or throat.

Entoquel (White) is a nonnarcotic antiperistaltic agent for the symptomatic treatment of diarrhea in children. The drug, thihexinol methylbromide, is used in two syrup forms; one with thihexinol alone, for nonspecific diarrhea; and one with neomycin, for combating enteric organisms frequently responsible for bacterial diarrhea.

Tenuate Dospan (Merrell) is a mixture of diethylpropion with a hydrophilic carrier to provide uniform hunger control. Each tablet contains 75 mg. of Tenuate (diethylpropion) in a delaying matrix (Dospan) which permits therapeutic response over a period of 10 to 12 hours.

Miluretic (Wallace) is a diuretic-antihypertensive and tranquilizer combination containing 25 mg. of hydrochlorothiazide and 200 mg. of Miltown (meprobamate) for treatment of hypertension. It comes in bottles of 50 white, scored tablets.

Cardioquin (Purdue Frederick) is a new organic quinidine molecule in tablet form for the treatment of cardiac arrhythmias.

Adroyd (Parke, Davis) is a new anabolic steroid, oxymetholone, for support of protein synthesis in underweight individuals and anabolic support in illness and convalescence. It is supplied in bottles of 30, 10 mg. tablets.

Didrex (Upjohn) tablets contain 50 mg. of benzphetamine hydrochloride for the control of obesity and are supplied in bottles of 100 and 500 scored tablets.

Zarontin (Parke, Davis) is a new anticonvulsant succinimide, ethosuximide used to control petit mal epilepsy, and comes in bottles of 100 soft gelatin capsules containing 0.25 gm.

Forhistal (Ciba) is a new antihistamine available in four forms: Lontabs (2.5 mg.), which sustain therapeutic effects up to 12 hours; tablets (1 mg.); syrup; and pediatric drops.

Hydropres-Ka-50 and **Hydropres-Ka-25** (Merck) are two combinations of HydroDiuril, 50/25 mg.; reserpine, 0.125 mg.; and potassium chloride, 572 mg., for the medical management of hypertension, available in bottles of 100 tablets.

Midrin (Carnrick) for the prevention and relief of migraine, migraine variant and tension headaches comes in a capsule containing 65 mg. of isometheptene mucate, 325 mg. of N-acetyl-p-aminophenol, and 100 mg. of dichloralphenazone. It comes in bottles of 50 red capsules.

Sultrin Cream (Ortho) is a triple sulfonamide vaginal cream replacing triple sulfa cream for topical treatment of nonspecific vaginal infections, composed of a white, stainless, absorptive, water-dispersible cream combining three sulfas in optimal association (sulfathiazole 3.42 per cent, sulfacetamide 2.86 per cent, N^1-benzoylsulfanilamide 3.7 per cent) with urea 0.64 per cent. It is packaged in 78 g. tubes with or without applicator.

Mon-Iron Chronosules (White) for treatment of iron deficiency anemia contain 6 mg. of molybdenum oxide and 390 mg. of ferrous sulfate per tablet, and come in bottles of 30 and 250.

Coricidin Syrup (Schering) is a new nonnarcotic formulation, replacing dihydrocodeinone bitartrate with dextromethorphan hydrobromide, for relief of coughs, aches, and accompanying pains. It also contains Chlor-Trimeton maleate, sodium salicylate, sodium citrate, glyceryl guaiacolate, and caffeine.

Trimagill (Massengill) is a new agent for vaginal infections containing tartaric acid, citric acid, boric acid, dextrose, potassium bitartrate, potassium alum, and adhesives. It is supplied as powder in 5 ounce insufflator bottles and as vaginal inserts in boxes of 24.

Surgicel (J&J) is a new dressing for the control of bleeding in both external and internal wounds, which performs its hemostatic function by inducing an artificial clot. It is a whitish oxidized, regenerated cellulose with a faint, caramel-like aroma.

Enziflur (Ayerst) is an orange-flavored lozenge containing 2.21 mg. sodium fluoride, 30.0 mg. vitamin C, and 400 USP units vitamin D, which provides the caries preventative effect of both dietary and topical fluoride. It comes in bottles of 100. Each lozenge yields 1.0 mg. of Fluoride ion.

Ferro Sequels (Cyanamid) is a sustained-release capsule containing 150 mg. of ferrous fumarate and 100 mg. of dioctyl sodium sulfosuccinate for the prevention and treatment of iron deficiency anemia. It comes in bottles of 30 capsules.

Panwarfin Injection, and **Sterile Water for Injection (Rx)** (Abbott) is an anticoagulant for treatment and prophylaxis of intravascular thrombosis and embolism. Each combination package consists of one vial containing 75 mg. of warfarin sodium and 15 mg. of sodium chloride, and one ampoule containing 3 ml. of sterile water for injection, USP.

Syntocinon Nasal Spray (Sandoz) is an aqueous solution of oxytocin synthetic USP, of the polypeptide hormones of the posterior lobe of the pituitary and is indicated in a number of complications associated with lactation. It is supplied in 5 cc. plastic squeeze bottles, each 1 cc. containing 40 USP units.

Tenuate Dospan (Merrell) contains in each tablet 75 mg. diethylpropion in a special delaying matrix which permits therapeutic response over a period of 10-12 hours. The preparation is intended for appetite control. In bottles of 100 tablets.

Belvis (G. W. Carnrick) tablets for the treatment of peptic ulcer and relief of gastric hyperacidity contain guar cellupectinoid, 275 mg.; magnesium oxide 70 mg., aluminum hydroxide gel 80 mg., and magnesium trisilicate 160 mg. and are supplied in packages of 40 and 100.

(Continued on page 826)

Extremely Pure, Free-Flowing, Economical

Baker NaOH and KOH PELLETS

SPECIAL FOR ELECTRONICS!

'Baker Analyzed' Sodium Hydroxide, Reagent Special Pellets, low in carbonate.

Baker Sodium and Potassium Hydroxide Pellets are white, extremely pure, economical to buy and work with, and are available by the truckload, ton, or drum. Their size and half-spherical shape are designed for quick solubility and for smooth rapid flow without dust, sticking or interruption. Their extremely high purity helps you achieve more predictable, trouble-free processing, greater uniformity in your finished product with fewer rejections.

DOMESTIC MATERIAL, BY CARLOAD OR TON. J. T. Baker, America's largest manufacturer of Sodium Hydroxide and Potassium Hydroxide Pellets for industrial use, has again increased capacity to offer you the security of a steady *domestic* supply.

Baker NaOH and KOH Pellets are low in heavy metals, chloride, carbonate, sulfate, phosphate, nitrogen and silica. They are available in the 'Baker Analyzed' Reagent and U.S.P. grades; container sizes include 100 lb. and 25 lb. drums and 10 lb. cans.

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Phillipsburg, New Jersey

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Cardamine

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Lackawanna 4-1525

(*Continued from page 786*)

years in arduous apprenticeship to learn his trade; then devote more years to establishing himself as a perfumer; somewhere along the way he should acquire a chemical degree if time permits; he must develop a research temperament and an exploratory attitude; then he must face the manifold problems which we have described. As if this weren't enough, he must acquire the patience of Job and the tact of a diplomat.

Did I hear someone say the perfumer's job is easy?

HOW TO EXPORT TO EUROPE

(*Continued from page 731*)

for one year all vouchers that apply only to U. S. production and sales. These will be the largest part of your total costs. It is obvious, for instance, that costs in connection with your representative in Texas or for entertaining a major U. S. customer should not be shared by European clients. It is also obvious that your Italian clients would prefer not to pay for your advertisement in *The Saturday Evening Post*.

I am sure that you will find this cost separation informative. When you have it, you can further analyze your profit and loss account for the actual cost that must be the basis of your export price.

The next problem is to find the person or firm to introduce your goods on the European market. Let me first state who it should *not* be. It should not be the man with whom you became acquainted in the hotel bar last time you were in Europe. Nor should it be the charming fellow your brother came to know on his last holiday in Europe. It is not even certain that you can approach uncritically a firm recommended to you by someone in your domestic field. No, it should be an organization or person with real qualifications for doing a good job for you. First, it must be someone with a thorough knowledge of your line of business. This person or firm must have good relations with the very best firms in the business in a number of countries. Such a firm or person should also have good financial standing.

Your agent must write and speak at least three or four of the most common European languages. Personal contact is more complicated in Europe than in the U. S. because of the many different languages.

Just as it is important not to overorganize your business at home, it is also important not to overorganize your European sales organization. You should require this organization to call on all your European clients at least once a year. In Europe, personal contact is even more important for good cooperation than it is in the U. S.

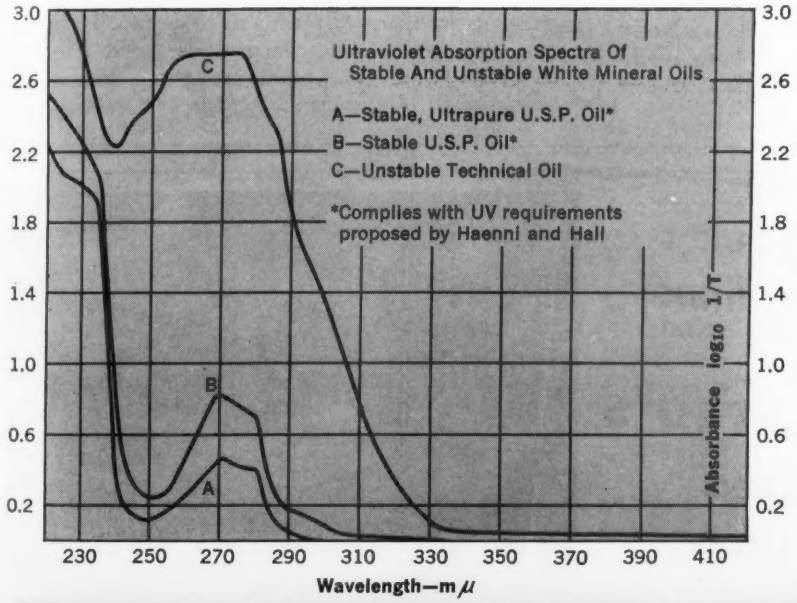
Most important, this organization must always provide your agents in the various countries with sales stimulation. This should come largely from you in the U. S., and then be distributed by your Euro-

Advances in the technology of white mineral oils at Penn Drake may help you solve a problem

White oils of high quality by former standards, which comply with all N.F. or U.S.P. requirements, may fail to give complete satisfaction in some applications due to: 1) Lack of light stability; 2) Lack of heat stability; 3) Lack of oxidation stability; 4) Presence of polynuclear aromatic impurities which may impart fluorescence and show ultraviolet absorptions higher than the standards for indirect food additives proposed by Haenni and Hall (Jour. A.O.A.C. 43, 92-95; 1960), as follows:

At 275 mμ (1 mm cell)	0.3
295-299 mμ (1 cm cell)	0.225
300-400 mμ (1 cm cell)	0.18

These deficiencies may be overcome by positive control of the refining process to maintain ultraviolet absorbances well below threshold levels at which the respective instabilities begin to manifest themselves, as illustrated by the curves below.



Consult us for further details and technical advice on your specific problem.

The information given here was taken from an article in the February, 1961, "American Perfumer," which discusses recent technical advances and gives Waterman composition analyses, correlation indices and other detailed data on typical white oils. Reprints of the article are available upon request.

NONCARCINOGENIC · NONTOXIC · NONIRRITATING · NONREACTIVE

Intensely—Pure

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WHITE OILS

Refined by

PENNSYLVANIA REFINING COMPANY

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penn drake

pean headquarters, translated into the various languages. Matrixes or possibly pictures or drawings should be sent to clients to make it easy for them to show greater initiative in promotional work. It is equally important that your European headquarters keep itself informed as to what efforts are made by all your European agents in sales promotion. If your agent in France has a good idea for an advertisement, a new display or a new sales story, this should immediately be forwarded to your other European agents, translated into their languages along with such things as matrixes, photos and drawings. Moreover, your headquarters must be well informed of conditions in the various European countries in order to assist you with any changes in your product—mainly as to package and presentation—that would make it more suitable for the country in which it is to be sold.

Above all, your headquarters must be able to give you a fairly correct sales estimate, which is highly important in determining your export price.

Your European headquarters should continually send you samples of European competitive products, and inform you of their prices.

Your representatives must also assist you in planning your sales policy. For instance, whether your product should be handled exclusively by one agent in each country, or is suited for direct sale to bigger stores?

Once you begin on these problems, you will find this work very interesting, and it is certain that many American firms should be able to obtain good sales in overseas markets. Moreover, you will get greater enjoyment as well as profit from your future trips to Europe—suddenly you have friends in many countries.

COSMETIC CHEMISTS MEET

(*Continued from page 734*)

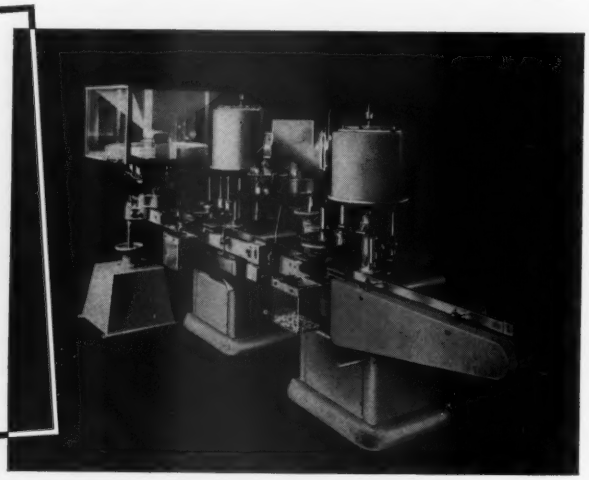
tions of the organic chemist in such areas as synthesis, evaluation, product development and the like were explored, and examples were cited of the scope and complexity of organic chemical cosmetic problems.

Theodore Swenson defined the various functions in chemical engineering and explained its practical applications, as well as its differentiation from the work of the chemist. Chemical engineers serve special functions in process development and process engineering. Typical examples were cited in detail.

Instrumentation in the cosmetic laboratory has increased in recent years, according to *G. M. Leigh and A. P. Kent*. More complex apparatus provides information with higher precision, more rapidly than was previously possible. Particularly rapid growth has been shown by spectral and chromatographic

(*Continued on page 818*)

Speed up your powder filling lines with CONSOLIDATED'S Synchronized Capping Units



These close-coupled synchronized Consolidated units are specially designed for automatic, high speed sorting and applying of can breasts and secondary threaded or slip closures.

Can breasts are held in the plexiglass major supply hopper and automatically fed to the rotary sorter as needed. Chucks seat them properly over the can tops. Objectionable scratching is greatly reduced because they are handled much more gently than by other methods.

Synchronized with the sorter unit is a standard 4-spindle Consolidated capping unit which sorts and applies the threaded or snap-cap type closure. You save floor space because of the close-coupling of the two units.

Both units are geared for a speed of 120 closures a minute, and are designed for high speed, dependable, day-in-day-out operation.

For complete information, write Sales Manager, Consolidated Packaging Machinery Corp., 1400 West Avenue, Buffalo 13, N. Y.

A Subsidiary of International Paper Company

—C A P E M—→ THE HIGH SPEED, DEPENDABLE SCREW CAPPER

TRADE LITERATURE

Centrifugal Pumps. Goulds Pumps, Inc., 220 Black Brook Road, Seneca Falls, N. Y.—16-pg., illus. bulletin (725.9) gives bearing life, and shaft deflection data, a frame selection chart as well as performance, specifications, construction details, and dimensions of a new line of single-stage centrifugal pumps.

Homogenizers. Sonic Engineering Corporation, 146 Selleck Street, Stamford, Conn. —6-pg., illus. brochure describes line of homogenizers, giving techniques and applications.

Dimer Acid. Emery Industries, Inc., Organic Chemicals Division, Dept. 5, Carew Tower, Cincinnati 2, Ohio — bulletin (#421) lists properties and specifications for the new, lighter colored commercial Empol 1018 Dimer Acid. The product, which has an 8 max. Gardner color, extremely good color stability, and low monobasic acid content, is designed primarily for polymers and other uses demanding the lightest colored end-products possible.

Water Stills. Pharmaceutical Equipment Division, F. J. Stokes Corporation, 5500 Tabor Road, Philadelphia 20, Penna.—4-pg., illus. bulletin (#340) describes the latest designs of Stokes automatic water stills. It gives complete specifications, and also describes the water still accessories available.

Stainless Steel Utensils. Metalsmiths, 560 White Street, Orange, N. J.—4-pg., illus. catalog describes line of corrosion-resistant pails, batch cans, stock pots, hand scoops, dye and starch buckets, measures, standard beakers, measuring dippers, funnels, and shovels. Items are made of Type 304 stainless steel, Type 316 stainless, or Monel.

Surfactants. American Alcolac Corporation, 1440 Fairfield Road, Baltimore, Md. —28-pg. booklet, Cosmetic and Pharmaceutical Surfactants, describes the properties and applications of surfactants used by the cosmetic and pharmaceutical industries.

Automatic Weight Sensing. Exact Weight Scale Company, Dept. P, 920 W. Fifth Avenue, Columbus 15, Ohio—8-pg. illus. reference manual for the application of automatic weight sensing systems. Applications are based on a proven weighing principle developed by the company.

Carton Setup Equipment. New Jersey Machine Corporation, 16th Street and Willow Avenue, Hoboken, N. J.—Bivans brochure describes its carton setup and closing equipment.

Color Measurement. Colorimetry Division, Allied Research Associates, Inc., 43 Leon Street, Boston 15, Mass.—two 4-pg. brochures, one on general product sorting capabilities and the other describing technical details and applications of the high-speed fully automatic colorimeter.

Plastic Packaging. SLM Plastics, 420 Park Avenue, Perth Amboy, N. J.—1-pg. illus. circular describes design and manufacturing facilities of the acetate-cardboard, semi-rigid transparent packages.

Timing Screws. Arthur Colton Company, 3400 E. Lafayette, Detroit 7, Mich.—4-pg., illus. brochure (STE-596) describes Kinsley custom-engineered timing screws that pick up containers from a conveyor on a filling machine, capper, labeler, washer, counter, cottoner or similar type of packaging machine and discharge them at the required spacing for the operation. Line drawings and photographs showing design considerations and specifications are given.

NOT A NEW ISSUE

May 17, 1961

100,000 Shares

Morton Manufacturing Corporation

Common Stock

($1 par value)

Price $24 Per Share

This announcement constitutes neither an offer to sell nor a solicitation of an offer to buy these securities. The offering is made only by the Prospectus, copies of which may be obtained in any State from such of the undersigned as may lawfully offer these securities in such State.

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New help for you

Important information is summarized below about Roche Vitamin E. This will help you select the best type for each of your products. Use pure, potent Roche Vitamin E with confidence.

ROCHE
Vitamin E data sheet

	ROCHE LIQUID TYPES		ROCHE DRY TYPES	
PRODUCT	*dl-alpha-* TOCOPHERYL Acetate, N.F.	*dl-alpha-* TOCOPHEROL, N.F. (unesterified)	Dry Vitamin E Acetate 33%	Dry Vitamin E Acetate 25%
DESCRIPTION	Clear, viscous oil. Pale yellow. Nearly odorless.	Clear, viscous oil. Yellow to light amber. Nearly odorless.	Snow white. Practically odorless and tasteless. Free-flowing.	Free-flowing, spherical beadlets. Mesh range insures maximum uniformity in products.
BIOLOGICAL POTENCY	1 milligram equals 1 International Unit (See Note A).	1 milligram equals 1.1 International Unit.	1 gram equals 333 I.U. of Vitamin E.	1 gram equals 250 I.U. of Vitamin E.
SOLUBILITY	Freely soluble in alcohol; miscible with ether, chloroform, acetone, vegetable oils. Insoluble in water.	Same as *dl-alpha* Tocopheryl Acetate at left.	—	—
STABILITY	Stable in air, light, ultra-violet light, strong acids and heat.	Stable to heat in presence of oxygen. Relatively stable to acids and visible light. (Activity may be destroyed by ferric or silver salts.)	Stable in tablets, capsules, dry mixes and during storage in usual shipping containers.	Exceptionally stable. No potency loss during handling and storage.
USES	Parenterals; multivitamin liquids; soft gelatin capsules, lotions, creams, ointments; confections.	Parenterals; lotions, creams, ointments; pet foods; flavor emulsions and citrus oils; in fats as an antioxidant.	Hard gelatin capsules; high-potency tablets (See Note B); multivitamin tablets; dietary products.	Hard gelatin capsules; dry granular products for reconstitution; instant food or beverage products, confections.
FORMS	—	—	Granular Fine Powder	Powder
PACKAGING	Seamless aluminum bottles.	Seamless aluminum bottles under inert gas.	Polyethylene bags in fibre drums. ½- and 1-kilo quantities in sealed metal containers.	Polyethylene bags in fibre drums. ½- and 1-kilo quantities in sealed metal containers.

NOTES

(A) This is the International Standard for Vitamin E, adopted by the *International Conference on Vitamin Standardisation* held in London in October, 1941. Roche supplied the synthetic *dl-alpha*-tocopheryl acetate from its laboratories. Since that time, what Roche supplied has been the standard by which all Vitamin E is judged.

(B) Used for direct compression of tablets with flat or slightly curved surfaces.

IMPORTANT—ABOUT COSTS. There are a number of different forms and potencies of Vitamin E commercially available. The potency of the product does not determine which form is most economical to use. The cost per *International Unit* should be calculated when selecting the most suitable type for your formulation.

NEW BROCHURE. *Roche has published a technical brochure about Vitamin E. If you have not already received your personal copy, ask your Roche salesman or write the Fine Chemicals Division. It's free, of course.*

VITAMIN **E** COMES
RIGHT FROM ROCHE

Fine Chemicals Division • **HOFFMANN-LA ROCHE INC** • Nutley 10, New Jersey
NOrth 7-5000 • New York City: OXford 5-1400

In Canada: Hoffmann-La Roche Limited, Vitamin Place, 1956 Bourdon Street, St. Laurent, Montreal 9, P. Q.

ROCHE®

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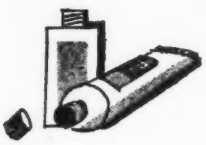

Advancing Therapy

New Tetracycline Derivative

U. S. Patent 2,984,686 has been issued to R. K. Blackwood, H. H. Rennhard, J. J. Beereboom, and C. R. Stephens, Jr., and assigned to Chas. Pfizer & Co., Inc., for a new synthetic antibiotic 6-deoxy-6-demethyl-6-methylene-5-oxytetra-cycline. Clinical testing to date indicates that the new drug is a well-tolerated, broad spectrum antibiotic of high potency. On oral administration it produces high blood levels of long duration. Further studies are in progress in hospitals and clinics in the United States and abroad.

Tinea Treatment

The treatment of tinea versicolor in the past has been unsatisfactory. Recurrences were frequent despite prolonged daily applications of the medications available. A new compound, 9-aminoacridinium 4-hexylresorcinolate, in 3 topical vehicles (cream, lotion, and aerosol spray), has been evaluated by E. H. Zimmerman (*J.A.M.A.* 176: 23, 1961) by clinical and laboratory criteria in a series of 40 patients with this mycotic infection. Good to excellent results were obtained in 39 patients. In 32 of these, complete clearing occurred after a single course of 4 to 8 weeks; in 7 others it occurred after a second similar course. Only one patient had poor results, with prompt recurrences after repeated courses. No signs of primary irritation or allergic sensitization were observed in any case, and acceptance by patients was excellent.

The excellent results obtained in this preliminary study, as reflected by the relatively short period of therapy required for clearing of the infection, the complete lack of side effects, the ease of application and cosmetic acceptability of the preparations, and, most importantly, the exceptionally low incidence of recurrences, indicate that in 9-aminoacridinium 4-hexylresorcinolate we have a new specific therapeutic agent for tinea versicolor. It far surpasses any medication the author has previously used for this infection.

It must be realized that in tinea versicolor, as in other mycotic as well as bacterial infections, the problem of recurrences is intimately related to an individual host susceptibility (or lack of immunity) to the infecting organism. Like other therapeutic agents, 9-aminoacridinium 4-hexylresorcinolate probably has no effect whatever on the patient's susceptibility to *M. furfur.* Thus, if the susceptible patient again comes in contact with this common organism, he will probably be reinfected and the eruption will reappear. However, with such a rapidly effective, easily applied, pleasant and safe therapeutic agent, repeated courses of treatment, when necessary, offer little problem.

Synthetic Penicillin PA-248

α-Phenoxypropyl penicillin (PA-248) is a new synthetic penicillin. Its potential therapeutic value has been assessed by G. M. Williamson, J. K. Morrison and K. J. Stevens (*The Lancet* 1961 p. 847) by determination of its antibacterial spectrum in vitro, in conjunction with measurements of serum levels after oral administration.

Studies with the potassium salt of alpha-phenoxypropyl penicillin show that, after oral administration, PA-248 produces peak serum levels (in μg. per ml.) approximately 4 times as high as those of penicillin V and 20 per cent higher than those of phenethicillin.

Correlation of these relative serum levels with in-vitro results indicates that: (1) the three oral penicillins will be equally effective against sensitive staphylococci; (2) PA-248 will be the most effective of the three oral penicillins against resistant staphylococci; and (3) PA-248 will be the most effective of the three oral penicillins in streptococcal infections.

Attention is drawn to the fact that the three oral penicillins are less effective than penicillin G against gram-negative cocci and bacilli.

Five cases of pneumonia due to infection with penicilin-resistant staphylococci resolved clinically, bacteriologically, and constitutionally when treated with the new synthetic penicillin by M. Nagley (*The Lancet* 1961, p. 851), while infections occasioned by penicillin-sensitive organisms responded as well to this new penicillin as to penicillin V. This work is continuing and more cases are being treated and fully analyzed. It is not possible to draw further conclusions at this stage.

Diuretic Action

The effects of the new sulfamyl diuretic chlorthalidone have been compared by W. K. Stewart and L. W. Constable (*Brit. Med. J.* 1961, 523) in each patient with those of the same diuretic modified by simultaneous administration of spironolactone and with those of a standard dose of Mersalyl. Hygroton diuresis was still in evidence, although gradually declining, usually 3, and sometimes up to 6, days after its administration. The potency of Hygroton as a sodium eliminator in the responsive patient was greater than that of Mersalyl; whereas in the resistant patient—in whom the disease process was presumably more advanced—mersalyl was the more effective diuretic, and certainly caused less accompanying kaluresis. As a responsive patient reached dry weight, the proportion of potassium loss compared with the accompanying sodium loss was increased by Hygroton, there being a resemblance in diuretic effect between this state and that of the resistant.

Aldactone administered with Hygroton was found to enhance the sodium loss and conserve potassium in the resistant patient, and also in the responsive patient approaching normality.

The results in general are consistent with the primary fault in sodium handling in congestive heart-failure being situated in the proximal tubule. The edema is not entirely explicable by the hypothesis of secondary hyperaldosteronism with resultant sodium retention.

The action of all three diuretic stimuli was generally accompanied

by a greater increase of water output than of solute as judged by the change in water/osmolar ratio. During Hygroton-induced diuresis a modest reduction in daily urinary output of ammonia plus titratable acid was frequent and is attributed to elimination of the bicarbonate content of the edema fluid. A chance finding was a possible interference by the hypoglycemic agent, phenformin, on the action of diuretics.

Methaqualone Hypnotic

Methaqualone, 2-methyl-3-o-tolyl-4-quinazolone hydrochloride, is a synthetic non-barbiturate hypnotic. Ravina in 1959 reported on its value in an oral dose of 150 mg.; he found that in 54 out of 100 patients the hypnotic effect was superior to that of previously administered hypnotics, but placebo controls were not used. T. W. Parsons and T. J. Thomson (*Brit. Med. J.* 1961, 171) assess the value of this drug as compared with cyclobarbitone, using an inert control.

The double blind clinical trial was set up to answer two questions: is the drug a reliable hypnotic and is its action comparable with that of the usual dose of cyclobarbitone? Although the conclusions reached depended upon patient's opinions, the reliability of their judgments was checked by the technique of the investigation and by the use of the placebo. Methaqualone was thus found to be, in a single dose of 150 mg., a reliable hypnotic, with no important difference in effectiveness from that of 200 mg. of cyclobarbitone.

Amino Acid Utilization

Rats fed a lysine-deficient diet *ad libitum* and injected subcutaneously twice daily with a lysine solution grew at about half the rate of rats receiving lysine in the diet, according to P. D. Spolter and A. E. Harper (*Proc. Soc. Exptl. Biol. Med.* 106: 184, 1961). Rats fed *ad libitum* an isoleucine-deficient diet failed to respond when they were injected twice daily with an isoleucine solution. If rats were fed the isoleucine-deficient diet for a period of only 2 hours daily and were given subcutaneous injections of isoleucine at the end of feeding period their rate of growth was about one-third that of rats receiving isoleucine in the diet. Under the same conditions, injection of rats fed a diet high in leucine with isoleucine and valine resulted in a comparable improvement of growth. These observations indicate that the rate of catabolism of isoleucine is much faster than that of lysine in the rat and that the amount of an amino acid catabolized depends upon mode of administration.

Cerebral Palsy Drugs

This review of a drug program by E. Denhoff and R. H. Holden (*N. E. J. Med.* 264: 475, 1961) points out the difficulty of evaluating the effectiveness of relaxant drugs in cerebral palsy. In the area of physical disability it is known that strong psychologic forces can often adversely affect physical progress. Recent studies have conclusively demonstrated that placebo can often have a more beneficial effect than drug in cases in which psychologic factors are closely associated with pathologic conditions. In coronary occlusion, in which psychologic stress often initiates an attack, placebo frequently helps pain more effectively than morphine. Such a placebo effect illustrates the need for more knowledge of the mind-body relation.

It is the contention of the authors that the basic problem in cerebral palsy is the inability of the child to function at an optimum physical level when stressful situations exist. Thus, the situations designed to produce body anxiety are a more realistic test of drug efficacy than rating of neuromotor change alone.

The study of chlorpromazine pointed out that over-all progress can be made more quickly and effectively when a child is relaxed and happy. His willing participation in the habilitation program enhances the effectiveness of a program more than any relaxant drug has done so far.

The "placebo effect" reported implies that often placebo can be beneficially substituted for drug when psychologic crutches are needed. However, the effectiveness of a given drug cannot be denied in a particular case.

Although the neuromotor effects of mephenesin seemed beneficial, the behavior effects were less impressive. There was a large, and unexpected, placebo effect. A mixture of mephenesin and glycerol alpha ethyl gamma isopropyl ether had placebo effects that outweighed the drug effects in both neuromotor and behavior ratings, and the drug was not tolerated well by the children. Since neuromotor effects were not expected from chlorpromazine, it was rated solely on behavior ratings. It was the only drug studied that showed a statistically significant difference from the placebo. Neuromotor effectiveness was achieved after the children were relaxed and happy. Zoxazolamine had a beneficial behavior effect, but the neuromotor action was the same as that of the placebo. Reserpine was not tolerated well and the effective dose made the children sleepy. Alpha ethyl beta methyl valeramine was found to be relatively ineffective in tolerated doses, and was not released for use. Carisoprodol was not considered effective in these studies. Emylcamate is a new drug that on preliminary office investigation appeared to fulfill the requirements for a drug in cerebral palsy. The primary action of the drug is anxiety reduction, with associated neuromotor relaxation.

Guanethidine

The antihypertensive effects of guanethidine seem to result from its ability to depress sympathetic vasomotor function either by decreasing norepinephrine production by nerve endings or by releasing catecholamines from heart and blood vessels.

Guanethidine has proved to be an effective drug for the treatment of hypertension for periods as long as 18 months, according to I. H. Page, R. E. Hurley, and H. P. Dunstan (*J.A.M.A.* 175: 543, 1961). Of 38 patients with renal or essential hypertension, reduction of supine diastolic pressure to levels of less than 105 mm. Hg for weeks or months was achieved by guanethidine in 22 patients; 5 of these developed edema which was easily eliminated by an orally administered diuretic. Twelve other patients, who originally received guanethidine only, failed to respond satisfactorily but achieved good blood pressure control with additional therapy, either as hydralazine, or an oral diuretic.

The only major side-effect of guanethidine was diarrhea, which was easily controlled with atropine.

Sonneborn White Oil Department

WHITE MINERAL OILS—High purity as indicated by the U.S.P. test for carbonizable substances and low ultraviolet absorbance, complete lack of odor, taste and color plus good shelf-life give Sonneborn white oils wide use in pharmaceutical and cosmetic preparations such as intestinal lubricants, ointments, baby oils, and many types of cosmetic creams, hair oils and makeup preparations.
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Skin Research

Measuring Sebum Production

This report by J. M. Strauss and P. E. Pochi (*J. Invest. Dermatol.* 36: 293, 1961) is concerned with a simplified quantitative technique for measuring sebum production adapted from the techniques of Miescher and Schonberg, and Kligman and Shelley The principle is the absorption of sebum on paper as soon as it reaches the surface, before the sebum can flow away. The technique is the following: The surface lipid of the forehead is wiped off thoroughly with dry gauze sponges; a square area is outlined on the forehead of subjects by means of cloth adhesive tape; collections are made on cigarette paper; papers are placed on the area, allowed to remain for 15 minutes and discarded—two collections of this nature, which are not used, assure uniform prehandling of the skin. For the actual test, four papers are held in place for three hours, the lipid area on the papers is trimmed out and the papers extracted with ether. Ether is evaporated and the residue weighed.

The results are given as milligrams of lipid per ten square centimeters per three hours. Although the results are reproducible, occasional values will be out of line. However, the standard deviation, averaging about fifteen per cent, is certainly within acceptable limits for biological test procedures. Sebum production is linear with the length of the collection period.

While the variation in individual tests may make the interpretation of a single test difficult, repeated testing of any one subject allows accurate evaluation.

The tendency of sebum to be lost by flowing away from the collection area has been the major obstacle to accurate measurement of sebum production. Herrmann and prose found that they could collect twice as much sebum if the test area was protected by a cup. This whole problem has been adequately analyzed by Kligman and Shelley. If a fixed cup is used to completely isolate the test area, the technic becomes almost impractical because the patients must be absolutely immobilized. The chief advantage of the absorption technic is that the sebum is trapped as soon as it comes to the surface and none can escape during collection. Furthermore, the delineating adhesive tape prevents the inflow of lipid into the area.

Another obstacle to the accurate measurement of sebum production has been the definition of what the baseline should be before the collection is started. The authors have found that if the skin is defatted with lipid solvents before testing, the results show a wide variation. However, when the skin is wiped free of sebum and the two fifteen minute control collections are run, the results tend to be more uniform.

As regards methods of measuring what has been collected, the simplest and least susceptible to error is a gravimetric determination. The method of Jones, *et al.* based upon the spread of the sebum dissolved in a solvent as a monolayer film over water, is dependent upon the surface area occupied by the various components of sebum. The method is unsatisfactory because of the variable composition of sebum. In Kvorning's technic the quantity of sebum is determined by measuring the carbon dioxide liberated after combustion of a sebum sample. A correction factor determined for mixed plasma lipids is used to convert this to weight of sebum. Once again, the varied composition of sebum, along with its great dissimilarity to plasma lipids lessens the accuracy of his determinations. The nephelometric method, used by Emanuel also bears no fixed relationship to the actual quantity of sebum.

Recently, Brun *et al.* and Smith have attempted to put the classical method of visualizing sebum by osmic acid discoloration on a quantitative basis. Transmission of light through a blackened sebum print was determined photelectrically. The relationship of the values obtained to the amount of sebum present on the paper was not determined so that the accuracy of the method cannot be evaluated.

Skin pH Determinations

The use of the glass electrode has given much more accurate results in the determination of skin pH than the older colorimetric and electrometric methods. For this study by H. W. Jolly, Jr., C. W. Hailey, and J. Netick (*J. Invest. Dermatol.* 36: 305, 1961) used modern and refined equipment. The Beckman laboratory pH meter, Model G, was used along with the M 40485 electrode, recommended for measuring the pH of flat, moist surfaces, and the M 39170 fiber-type calomel electrode, filled with a saturated solution of potassium chloride. The electrodes were standardized against a pH 7.0 buffer solution and the skin was prepared by a drop of unbuffered 0.1 per cent sodium chloride solution adjusted to pH 5.0. The skin was not cleaned or prepared in any other way so that the values obtained represent the true pH of the skin surface for the sites tested.

In all, a total of 2766 determinations were made in four general groups—normal, hand eczemas, miscellaneous dermatoses, griseofulvin-treated patients. The normal group resulted in 943 determinations. Aver-

age pH values were the following: right palm, 5.847; left palm, 5.877; right hand dorsum, 5.850; left hand dorsum, 5.901; right foot dorsum, 5.633; left foot dorsum, 5.641; right plantar ball, 6.704; right plantar arch, 5.658; left plantar ball, 6.753; left plantar arch, 5.572; neck-upper back, 5.653. The pH of the hand eczema cases did not differ significantly from the normals, while in the griseofulvin patients, small in number, pH seems to increase.

Misprint?

In the "Questions and Answers" department of May 6, 1961 issue of the *Journal of the American Medical Association*, a Massachusetts physician asks about treatment of psoriasis with dexamethasone, stating that the skin disease in this case was readily controlled by 37 to 75 mg. of dexamethasone daily, and asking how long this amount of steroid may be continued without any adverse effect on the body. The physician answering the question considers it unwise to persist in the use of this drug for a benign dermatosis and considers that the indefinite and long-continued use of the active agent are associated with marked inherent potential hazards.

We hope that a misprint crept into the printed question and that the above dosage was not the one mentioned in the letter, since it is about ten times the normal dose. According to *New and Nonofficial Drugs 1961*, for acute, nonfatal conditions such as seasonal asthma and self-limited ocular and dermatological disorders, daily dosages range between 2 and 3 mg. Massive doses of 10 to 15 mg. per day have been given to patients with acute leukemia, the nephrotic syndrome and acute pemphigus. The treatment in the above instance was of psoriasis of the hands. J.K.

Selenium Sulfide and Hair Roots

The 2.5 per cent selenium sulfide suspension used for treating dandruff is capable of producing changes in human hair roots when applied topically for a period of nine hours, according to V. E. Archer and E. Luell (*J. Invest. Dermatol.* 35: 65, 1960). It was observed that many hairs appeared to be weakened as a result of the application. Of the two hair root samples taken on the 24th day, 39.0 per cent of the hairs in the treated area broke in the shaft without pulling out the hair root, whereas only 10.6 per cent in the sample pulled from the untreated area broke in this way.

Changes in hair roots occur when the selenium preparation is used only once in accordance with the manufacturers directions for use in controlling dandruff.

The above changes in hair roots may represent a toxic effect of the selenium ion on the hair root papillae as suggested by Sidi and Bourgeois-Spinasse who noted that selenium disulfide preparations had a harmful effect on hair in many alopecias and pityriasis. Grover has reported partial loss of hair in six cases following repeated use of a selenium sulfide shampoo. Although the well known toxicity of systemically administered selenium suggests the possibility that selenium may have been the agent responsible for the observed changes, further experiments using other sulfides, and using the emulsifying, buffering and carrying agents by themselves would be necessary to elucidate the findings.

Seborrhea Treatment

Adequate control of seborrhea capitis in all of 79 patients, including complete control in 61, was reported in the Southern Medical Journal by I. I. Lubowe with the use of a new medicated shampoo containing biphenamine hydrochloride. All patients had immediate partial relief or improvement, while complete relief and control of the seborrhea capitis was usually obtained within a four week period.

Biphenamine hydrochloride is similar in structure to salicylic acid, and has displayed an oral toxicity in rats and mice in the same range as that of aspirin. In a shampoo base adjusted to a pH of 4.9, the preparation is less toxic than preparations employing heavy metals.

Antifungal Alcohol

K. Loewenthal (*Arch. Dermatol.* 83: 141, 1961) demonstrated that 70 per cent ethyl alcohol had an antifungal effect on epilated scalp hair infected with *Microsporum audouini*. It was shown that short periods of exposure of from 1 to 2 minutes can retard and completely inhibit the development of fungus colonies in approximately 40 per cent of the infected hairs. The percentage of retardation and complete inhibition increased in direct proportion to the time of exposure.

Steroid Cream

A new corticosteroid cream with 40 times the topical potency of hydrocortisone in the treatment of chronic eczema and other skin disorders has been introduced by Syntex Laboratories, Inc.

Called Synalar (fluocinolone acetonide), the new preparation is a synthetic steroid in a specially formulated base. Double blind studies involving more than 250 patients and a dozen compounds were conducted before fluocinolone acetonide was selected as the drug best qualified to be subjected to extensive pharmacological and, finally, clinical research. The steroid is 6 alpha, 9 alpha-difluoro-16 alpha-hydroxyprednisolone-16, 17-acetonide.

Before its introduction, Synalar was tested on almost 350 patients suffering from atopic dermatitis, neurodermatitis, contact dermatitis, seborrheic dermatitis, eczematous dermatitis, and other skin conditions. In 85 per cent of these cases, it achieved good to excellent results.

Triamcinolone Acetonide

Therapeutic assays with topical triamcinolone acetonide (TA) 0.1 per cent, 0.2 per cent, 0.5 per cent and 2 per cent preparations were carried out by H. J. Cohen and R. L. Baer (*Dermatologica* 122: 116, 1961) in 186 cases with various dermatoses. In agreement with previous authors, it was found that in the majority of cases 0.1 per cent TA is somewhat more effective than 1 per cent hydrocortisone (HC).

Increasing the concentration of TA to 0.2 per cent and 0.5 per cent appeared to improve the therapeutic results in about one-third of the cases of common benign dermatoses. In 0.5 per cent concentration, TA was found effective in cases of psoriasis with relatively superficial lesions which usually do not respond to 1 per cent HC, but failed to benefit heaped-up psoriasis lesions. Increasing the concentration of TA to 2 per cent did not result in further augmentation of therapeutic effects in the dermatoses tested. A striking result was obtained with 0.5 per cent TA in a case of mycosis fungoides in the pre-tumoral stage.

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SCIENTIFICALLY DEVELOPED AND MANUFACTURED—SPECIFICALLY FOR APPLICATION IN COSMETIC FORMULATIONS

KNAPP FINE CHEMICALS PRODUCTS INC.
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(*Continued from page 810*)

techniques. Examples were given of the range and versatility of modern instrumental methods in the cosmetic laboratory.

According to *Richard E. Faust*, the cosmetic industry should explore more fully the many ways in which the pharmacist can contribute to successful cosmetic research, development, and production. His training and skills in compounding as well as in pharmaceutical subjects make him a particularly useful member of the research staff.

Herbert Cockeram reviewed current knowledge of the chemistry of shellac, its derivatives, and constituent acids. Recent accomplishments in the field were described and an attempt made at assessing future development.

According to *Joseph B. Jerome*, cosmetic chemists and the AMA Committee on Cosmetics can cooperate in a review and evaluation of data available from studies already made on skin and hair, with emphasis on cosmetic applications; the establishment of recognized evaluation procedures to assess different classes of cosmetic materials; and the establishment of standard nonproprietary nomenclature for cosmetic ingredients.

TGA CONVENTION

(*Continued from page 740*)

tant, along with need for additional working capital, to set a value on company securities for possible estate settlement, and to permit employee participation. The danger of loss of control by original owners is to be considered, but is not paramount.

At the Scientific Section meeting on the final day of the convention, the 1961 CIBS Award was made to Dr. Martin M. Rieger and Dr. Stanley Brechner of Warner-Lambert Pharmaceutical Company for the paper they presented at the December meeting. The presentation was made by Robert C. Ring, president of CIBS.

Technical papers were presented at the meeting, with Dr. Herbert Heinrich as chairman.

Instrumental analysis has been used, according to *James A. Rogers, Jr., and Foltan E. Toth*, to evaluate citronellol, geraniol and some of their esters derived from citronella oil. Starting materials were examined and the resulting products described in relation to their production methods. The components present in the various materials have been separated by preparative gas chromatography and identified by infrared spectrophotometry.

The use of experimental animals for cosmetic studies has been limited to rabbits and guinea pigs. The skin of these species is considered as closely resembling human skin, but there are many uncontrolled factors in these animals such as their mixed genetic background, which make it difficult to obtain

(*Continued on page 823*)

(*Continued from page 818*)

uniform results. Furthermore, rabbits and guinea pigs, as well as ordinary laboratory mice require shaving to study naked skin, which introduces another variable. The hairless mouse, on the contrary, presents a skin surface devoid of hair once it has shed its first and only fur, which grows soon after birth, and is lost at about four weeks of life; it has a strictly controlled and known heredity, the result of many generations of inbreeding, and for a few months of its life its skin is not much different, except for absence of hair, from that of a normal mouse. While its microscopic appearance differs from that of human skin, it contains all of the elements of the human skin and with aging these undergo the same degenerative changes as occur in human skin.

Experiments reported by *F. Homburger, A. Tregier, J. R. Baker and C. M. Crooker* give evidence that the skin of hairless mice responds to the application of estrogenic and other steroid substances much as has been claimed for human skin; that this type of change can be differentiated from the surface effect of bland cream bases; and that, with sufficiently high dosages of hormones applied to skin, their effects on the sex organs of the mice can be demonstrated in the same experiments designed to study the local response of skin. There is, therefore, available now a biologic testing tool that permits the screening of biologically active compounds.

Four testing procedures, two with human skin and two with animal skin, were studied by *J. D. Justice, J. J. Travers and L. J. Vinson* as means of assessing relative mildness in paired comparisons of soap and detergent products. An arm immersion test and an overnight patch test were employed using human subjects. Swiss albino mice were used in a repeat animal patch test. Histopathological examination of skin sections was the basis of determining the effect of the test products on the animal skin. In the other animal studies, rats and rabbits were treated with the products, and the rates of water transmission through the excised skins used as criteria of product mildness. In only two of 28 paired product comparisons was there an indication that the order of mildness was different in 2 tests, and in neither case was the difference significant. Thus the correlation was generally quite good, and these animal screening tests can serve as useful guides in developing products intended for human use.

The status of the colors given in TGA Bulletin No. 3472 was discussed by *G. Robert Clark*. Principal problems involve the halogenated fluorescein colors and the disazo dyes, all of which will require further chemical investigation and standardization before permanent listing under the color additives amendment. The problems with the color additives not at present certifiable are substantially the same as those involved in the presently certified colors.

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Listing will also require some study of methods for determination of color additives in various products, and in some instances studies of stability of colors in cosmetics will be required.

A qualitative discussion of the fundamental concepts of nuclear magnetic resonance was presented by *E. T. Theimer and S. Lemberg*. The application of this powerful analytical tool to a comprehensive study of closely related compounds, the ionones and methyl ionones, demonstrates its uniqueness in structure elucidation. An unknown component that has long been observed (via vapor-phase chromatography) in commercial methyl ionone has been isolated and its structure assigned by the combined techniques of vapor-phase chromatography, infrared, mass spectrometry and proton magnetic resonance.

"Moisturizing" of the skin surface is a frequent aim of cosmetic preparations, yet there are no simple *in vitro* methods available to measure this effect.

The purpose of the work by *Peter Flesch* was to develop such tests. Water holding of the skin surface is determined by two factors: (1) the outward diffusion of water through the skin and (2) the penetration of water or water vapor into the horny layer.

For testing water diffusion, the evaporation of water through a vessel covered with human or animal skin was measured by daily weighings of the vessel. Water absorption was determined by exposing pulverized or intact human horny layers to varying atmospheric humidities. Both of these test methods were applied to glycerin.

It was found that glycerin decreased the diffusion of water through excised human or animal skin. This action was believed to be due to occlusion of the skin surface. When mixed with horny layers, glycerin greatly enhanced their water uptake under the conditions of the experiment. The effect was one of potentiation, not of summation. It also occurred with water-extracted horny layers and was therefore independent of the natural hygroscopic components of the horny layer. It is probable that glycerin penetrates between the keratin fibers of the horny layer and facilitates the absorption of water.

A study of recent literature and a survey of several manufacturers by *Phyllis Carter and H. Mack Truax* resulted in choosing seven variables that appeared to be important in formulating aerosol shaving creams. The effect of these variables on dispensation and foam properties was studied by means of statistical experimental design, permitting a maximum amount of screening information from a minimum number of runs.

A modified micro method using baby mouse tissue homogenate in the determination of skin tissue respiration was described by *H. Goldschmiedt and I. I. Lubowe*. It was deemed advisable to evaluate various USP ointments as to their ability to depress or accelerate in the laboratory the skin respiration factor. Among the ointments included in the study were

zinc, vitamins A and D, boric acid, coal tar, yellow, white, polyethylene glycol, chrysarobin, ammoniated mercury, benzoic and salicylic acid, hydrophilic, rosewater, bacitracin, neomycin sulfate, and zinc paste.

Interesting results were obtained and described in the paper. As more knowledge and data accumulate, the skin respiration factor may become an important tool in the study of cosmetic and dermatological preparations, and the pathogenesis of cutaneous diseases.

PATENTS AND TRADEMARKS

(*Continued from page 758*)

The following examples, as taken from the patent, are given to show the method of production and use:

"*S-acetyl mercaptoacetamide having the formula:*

$CH_3COSCH_2CONH_2$

"(*i*) Method of production: Into a round-bottomed flask equipped with a stirrer, a thermometer, a reflux condenser and a dropping funnel is introduced one gram-molecule of mercaptoacetamide, and one gram-molecule of acetyl chloride is added drop-wise under stirring, the temperature being maintained between 35° and 45° C. At the end of the operation the mixture is kept stirred for some time, and the hydrochloric acid formed during the reaction is then removed under moderately reduced pressure. The product obtained is then distilled in vacuo. It boils at 132-135° C. under a pressure of 1 mm. Hg. The distilled product crystallises. After recrystallisation from absolute alcohol, a product is obtained which melts at 78-80° C.

"The yield is of the order of 85 per cent of the theoretical yield, and analysis of the product gives:

	Percent
Nitrogen calculated for $C_4H_7NO_2S$	10.52
Nitrogen found	10.35

"A solution having the following composition is prepared in the cold at the time of use:

	G.
S-acetylmercaptoacetamide	9
Triethanolamine	12
Water to make 100 cc.	

The hair is impregnated with this solution by the usual method employed in cold waving. The solution is then allowed to act for 10-25 minutes and setting of the hair is carried out in the usual manner. A stable permanent wave is thus obtained."

U. S. 2,976,216. This patent addresses itself to the problem of reducing the expense of shipping and packaging of so-called permanent waving agents.

(*Continued on page 828*)

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(*Continued from page 806*)

Ophthetic (Allergan) is an anesthetic for use in the eye, containing proparacaine HC2 0.5 per cent plus preservations in a sterile, aqueous vehicle. It is primarily useful in ophthalmic office procedures such as: tonometry, removal of foreign bodies, suture removal, and gonioscopic examination. Ophthetic Ophthalmic Solution is supplied in 15 cc. plastic dropper bottles.

COSMETICS

Marcelle Cosmetics eyebrow pencil for sensitive skin contains no lanolin or other known irritants, and comes in a brushed-gold case with a built-in sharpener.

Charles of the Ritz Eyelid Makeup comes in a water-miscible cake form and is applied, as a liner or shadow, with an artist's brush. Three sunbronze lipstick and nail polish shades are being introduced to be worn with 3 contrasting eye makeup colors.

Ar-Ex Top Coat has been added to the company's line of hypo-allergenic nail care.

Mennen Datline Acne Blemish Care is a greaseless acne preparation packaged in a 4½ ounce polyethylene tube with applicator.

Helena Rubinstein Cremessence emollient night cream contains Pendrev, penetrating agent, and a moisturizing agent, in 3 and 3⅞ ounce jars.

Romel Cosmetics Tweenage is a new line of cosmetics for girls between 12 and 16, for both skin care and makeup.

Charles of the Ritz Salon Shampoo Ritz is a new concentrated shampoo using an ingredient extracted from the yucca plant. It is available in two formulas—for normal to dry, tinted hair, and for normal to oily hair—in pink plastic 5-ounce bottles.

Salon Hair Sheen Ritz is an emulsion cream, hair conditioner-dressing with moisturizing ingredients. It comes in a pink plastic 1-ounce tube.

Salon Hair Spray Ritz, in a 5-ounce can, is a double-action hair spray that coats the hair's surface, and clings to the hair shaft and lends body.

Dorothy Gray Secret of the Sea is a scented, pale aqua blue treatment cream that combines moisturizers, emollients, and other active agents to combat dry skin.

Dermetics Medicated Clearing Lotion is used to fight bacteria, reduce oiliness, and refine enlarged pores for boys and girls.

Medicated Heal and Conceal is a flesh-tinted lotion, rich in vitamin A and B, to promote healing and skin repair.

Soft Soap is a deep cleaning treatment to soften and moisturize skin.

Noxzema Cover Girl is a combination of liquid makeup and pressed powder that is medicated and antiseptic. It comes in three shades, light, medium and dark. The liquid makeup is packaged in a 1-ounce bottle and the pressed powder comes in a plastic compact with mirror and puff inside.

Gelso Glycerine Soap is a hypo-allergenic, fluid gel resembling egg-white, delicately fragranced with attar of lavender. It comes in a toilet grade, and a medical grade with 1 per cent hexachlorophene, in half-pint squeeze bottles and in a 1-quart size.

Max Factor California Sun Pastels are six matte no-shine lipsticks named and described as Pink Pastel (pink), Strawberry Pastel (light red), Peach Pastel (peach coral), Apricot Pastel (orange), Lilac Pastel (lilac), and Money Pastel (beige).

Pond's Luminous Angel is a "no color" Angel Touch Face Powder that can be used on every shade of skin, is available in three sizes.

John Robert Powers Prime-Essence and Creme Concentrate are to be used for one month each season on alternate nights, the first to remove dry, scaly skin, the second to stimulate and enrich the skin.

Sofskin Moisturizing Lotion is a nonsticky, greaseless liquid for hands and body, that glides on easily and penetrates the pores. Applied before exposure, it forms an invisible protective coating; used afterwards, it replenishes the natural oils. The lotion is available in 3- and 6-ounce bottles.

Wrisley Complexion Treatment Soaps have been developed for three problem skin types including dry, sensitive, and oily. The formula used contains lecithin, plus special ingredients to combat each particular complexion problem. The soaps come in boxes of three.

Sof'lite Lemon Shampoo contains lemon additives to bring out natural highlights. It comes in an 8-ounce bottle.

Rayette Permanent Slate Color Tress is a coloring for grey hair, which allows the user to keep her natural hair color.

Mello Blue Cream Homogenized Hair Lightener consists of a liquid cream base, plus a powder activator, which releases the lightening agent and speeds its action. It may be used with one, two or three Activators, which control the speed of the lightening action and give maximum bleaching power.

Breck Banish Dandruff Treatment Shampoo, previously available only as a liquid, now comes in a cream form in 2-ounce and 4-ounce white polyethylene tubes.

Lever Brothers Pine Green Lifebuoy is the first pine-scented soap available at popular prices with deodorant protection.

Dermetics' Cool Dew is designed to banish tired lines, summer stickiness and excess oils with a cooling action. In a 4-ounce bottle.

Realistic's Color-Kist is a natural shade toner shampoo designed to color, clean and condition the hair. It is available in six shades—platinum, slate, brown, red, black and blonde—in an eight-ounce glass package.

Hazel Bishop's Creme 'N Powder combines creamy makeup and powder in one formulation. It is available in 7 shades. In a 1¼ tube.

Caryl Richards' Vita-Mild Hair Conditioner and Re-Vitalizer is enriched with vitamin A and peptonized milk nutrients.

Bourjois' Dry Skin Oil Spray is available in three fragrances—On the Wind, Spice 'N Ice and Frosty Mist, in four-ounce containers.

Max Factor's Finishing Powder is a translucent pressed powder light enough in texture and weight to blend invisibly over any makeup base, allowing the base color to show through. In three basic shades.

PERFUMES

Prince Matchabelli's Golden Autumn is a new perffume for fall. Cologne, Dusting Powder, Spray Mist Cologne, Bubbling Bath Oil, and Perfume Creme Sachet are already available in the same fragrance. The perfume, which comes in a quarter-ounce flask, is described as vibrantly flowery and woody, with mossy and leafy accents. •

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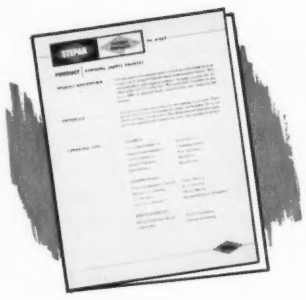
Stepanol lauryl sulfates offer you instant solubility, high initial foam and a foam that is creamy . . . close bodied. They also provide excellent foam stability and free rinsing. These Stepanols are sulfated fatty alcohols from selected cuts of straight chain alcohols predominantly lauryl. There is a wide variety of Stepanols to meet your requirements for physical form, concentration and inorganic salt content.

TRADE NAME	CHEMICAL DESCRIPTION	PHYSICAL FORM	ACTIVE	FREE FATTY ALCOHOL	CHLORIDE	SULFATE	pH 1% SOLN.	LBS./GAL. 30°C
Stepanol WA Paste	Sodium Lauryl Sulfate	Paste	28-30	1.5-3.0	1.4-1.8	1.4-1.8	7.5-8.5	8.67
Stepanol WAQ	Sodium Lauryl Sulfate	Viscous liquid	28-30	1.5-3.0	0.3-0.8	1.4-1.8	7.5-8.5	8.67
Stepanol WA Special	Sodium Lauryl Sulfate	Clear viscous liquid	28-30	1.0-2.5	0.3-0.8	0.5-1.0	7.5-8.5	8.67
Stepanol ME Dry	Sodium Lauryl Sulfate	Powder	90-94	1.5-3.5	1.0-2.0	1.5-3.5	8.5-11.0	
Stepanol ME Dry AW	Sodium Lauryl Sulfate	Powder	90-95	0.5 Max.	1.0-2.0	1.5-3.5	8.0-10.5	
Stepanol WAT	TEA Lauryl Sulfate	Clear liquid	39.50-41.0	1.3-2.0	1.0-2.0	2.3-4.5	7.0-8.5	8.7
Stepanol DEA	DEA Lauryl Sulfate	Clear liquid	33.5-36.0	1.25-3.25	1.3-2.6	2.6-3.5	8.4-8.7	8.58
Stepanol AM	Ammonium Lauryl Sulfate	Viscous liquid	28-30	1.5-3.0	0.5-2.0	1.5-2.0	5.5-6.5	8.53
Stepanol T-28	Special Sodium Lauryl Sulfate	Viscous liquid	35.5 Min.				9.0	8.6



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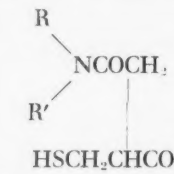
(Continued from page 825)

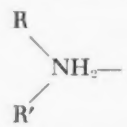
This problem arises from the fact that such agents must be supplied in the form of a lotion or aqueous solution because they are not stable in dry form.

The Gillette patent claims that thioparaconic acid and certain salts thereof, while not themselves capable of reducing the disulfide bonds in hair keratin even when dissolved in water, are readily converted into salts of half-amides of thioitamalic acid when dissolved in an aqueous solution of a nitrogen base, and that the resulting aqueous solution of the half-amide is an effective reducing agent for hair keratin.

The half amides have the formula



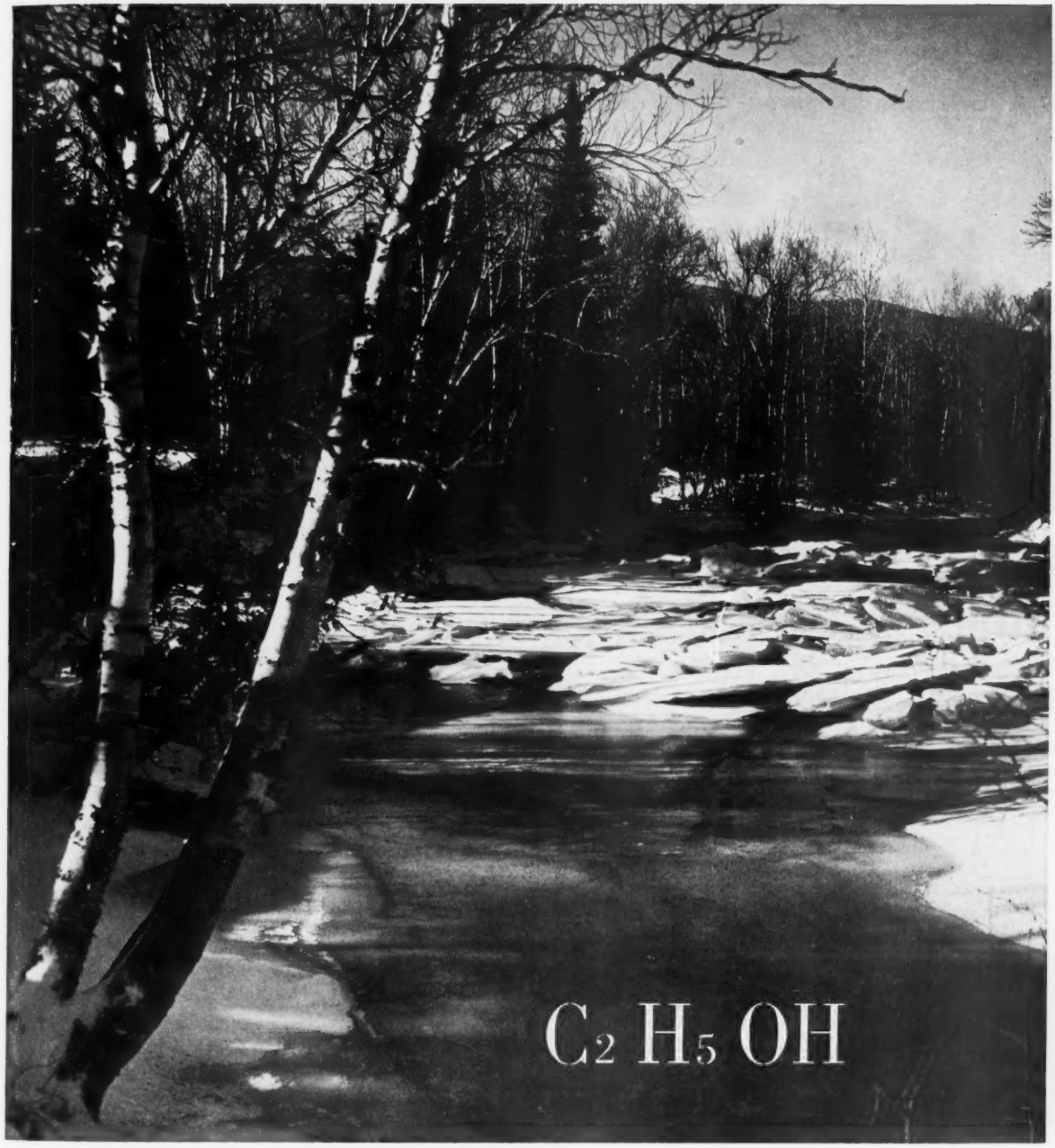
in which R and R′ represent hydrogen, lower alkyl groups, or hydroxy-substituted lower alkyl groups, and M represents an alkali metal, an alkaline earth metal, or a radical having the structure



in which R and R′ are defined as above. The aqueous solutions of half-amides of salts of thiotamalic acid are stable lotions at room temperature, which may be used in the same manner as conventional ammonium thioglycolate lotions for the cold permanent waving of hair.

When thioparaconic acid itself is employed as the precursor of the active waving agent, the thioparaconic acid may be mixed into water simultaneously with an alkaline material having a cation defined as M above, or either ingredient may be added first, if desired. The nitrogen base employed to form the half-amide is added subsequently. Dry solid mixtures of thioparaconic acid and nonvolatile alkaline materials and amines in the desired proportions selected from the classes above may be supplied to the user, who simply dissolves the mixture in water to provide a hair waving lotion. The nonvolatile solid amine 2-amino-2-methylpropanediol-1, 3 is preferred for this purpose.

When a salt of thioparaconic acid is employed as the dry solid precursor of the waving agent, the alkaline material with which it is reacted in an aqueous medium to form the desired half-amide of thioitamalic acid is a nitrogen base such as an amine having the structure



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in which R and R′ are defined as above, including ammonia as well as the other amines. In this case, also, the composition may be supplied to the consumer in the form of a dry solid mixture of the thioparaconate salt with a nonvolatile solid amine such as 2-amino-2-methylpropanediol-1, 3, or the separate ingredients may be added to water in any desired order.

The first example given below, which is taken from the patent, gives the preparation of one of the dry, stable precursors of the active waving agents. The second gives the details of the preparation and use of an active hair waving agent.

Example 1

"Thioparaconic acid (M.P. 108°-109° C.) in the form of a white, amorphous solid material was found to be a stable material, giving no evidence of decomposition even after storage over a period of several months. The sodium salt of thioparaconic acid was prepared by suspending 73 parts of weight (0.5 mole) of the latter in 200 parts by weight of water. A 20 per cent aqueous solution of sodium hydroxide was then added slowly to the suspension with stirring and cooling until the mixture had been neutralized to a pH of 7. The water was thereupon removed by evaporation at reduced pressure, leaving the white, solid, amorphous sodium thioparaconate which was also stable.

"Other salts of thioparaconic acid including other alkali metal salts, alkaline earth metal salts such as calcium and magnesium salts, as well as salts of amines such as 2-amino-2-methylpropanediol-1,3, were prepared by the same procedure and were likewise found to be stable in their dry solid form. The ammonium salt of thioparaconic acid was prepared by passing ammonia gas in excess into a suspension of thioparaconic acid in alcohol.

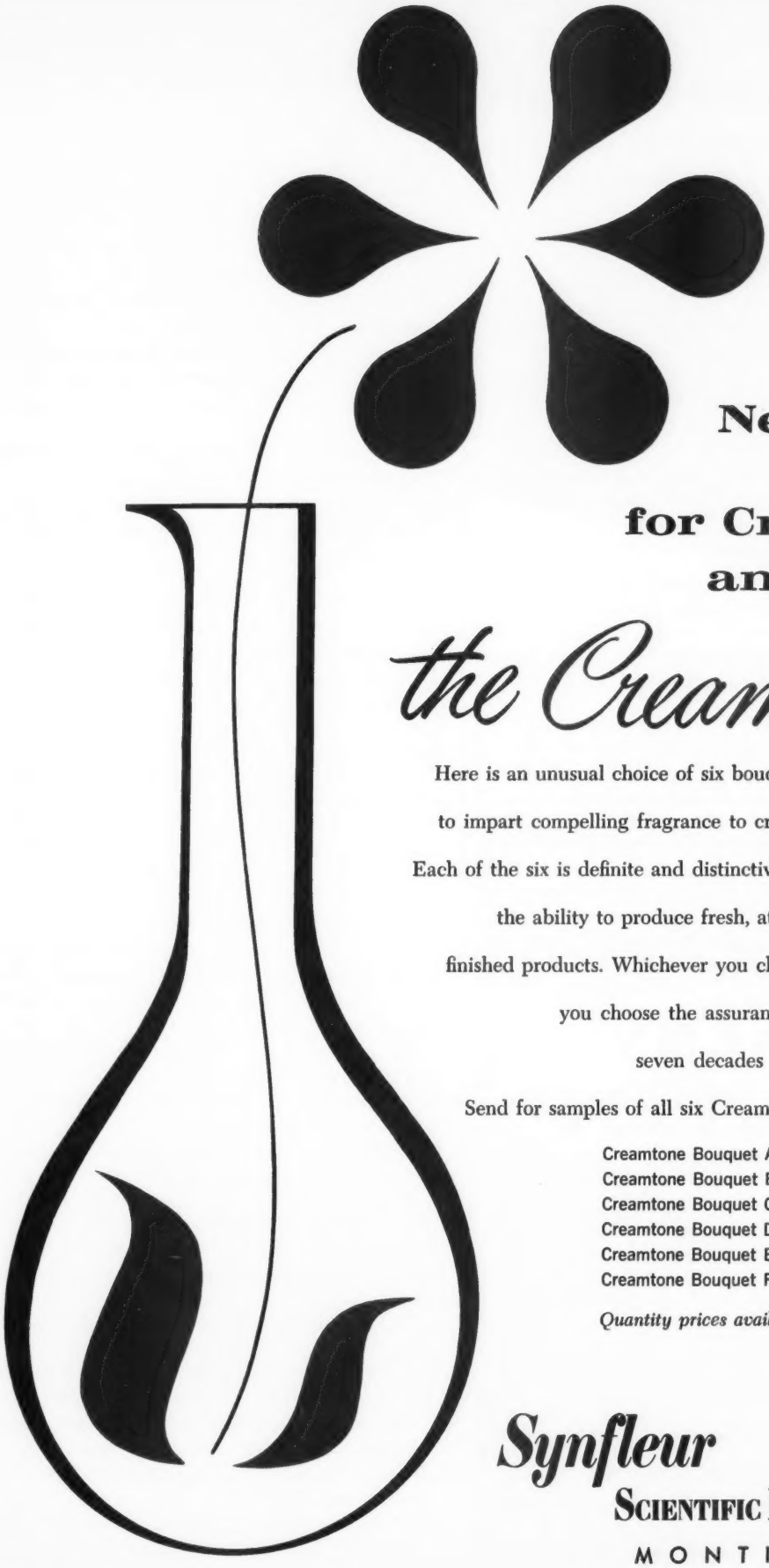
Example 2

"There was dissolved in the minimum quantity of water required for solution 16.8 parts by weight (0.1 mole) of ammonium thioparaconate. To this solution there was added slowly and with stirring 15 parts by weight (0.21 mole) of aqua ammonia. The reaction mixture became warm, indicating the formation of the half-amide of the ammonium salt of thioitamalic acid.

"The resultant solution was diluted to a concentration of 0.6 mole of the half-amide per liter and was found to remain stable at room temperature over an extended period of time.

"The foregoing dilute solution of the half-amide was employed as a waving agent by applying the solution to a hair tress in the usual manner, winding the saturated tress-upon a curler, then resaturating the wound tress and permitting it to stand at room temperature for sixty minutes. The hair tress was then thoroughly rinsed with water and allowed to dry for

(*Continued on page 832*)



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(Continued from page 830)

a period of six hours at room temperature while still in wound form, during which period aerial oxidation of the reduced hair occurred and the hair became hardened or set in its new curled configuration. Upon removal from the hair curler, the hair was found to have a highly satisfactory permanent wave."

RECENT PATENTS

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2,975,100—Mobac Laboratories Inc. — *E. Histolytica* Diagnostic Antigen.

2,975,101—Societe Anonyme dite: Societe Monsavonl-'Oreal (France)—Dyeing of Hair and Other Keratinous Materials.

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2,975,170—Colgate-Palmolive—Process for Manufacturing Terpeneless Essential Oils.

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2,975,173—G. D. Searle—Derivatives of 11α-Hydroxy-11, 19-Epoxyandrostanes.

2,975,174—Smith Kline & French Labs.—11, 18-Lactone Steroid Compounds.

2,975,175—Societe des Usines Chimques Rhone-Poulenc, (France)—Phenthiazine Derivatives.

2,975,176—G. D. Searle—Morpholides and Thiamorpholides of 1, 4α-Dimethyl-1-Carboxy-6-Hydroxy-1, 2, 3, 4, 4α, 9, 10, 10α-Octahydrophenanthrene-7-Carboxylic Acids, u-Alkanoic Acids and 7-Alkanethionic Acids and Their Ethers and Esters.

2,975,180—Thomas S. Osdene et al.—4, 7-Diamino-2-Aryl-6-Pteridinecarboxamides.

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2,977,376—Sandoz Ltd. — 1-Amino-Nitrobenzene-4-Sulfonic Acid Amides.
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2,980,693—Parke-Davis & Company—Esters of Substituted Benzilic Acids.

(Continued on page 839)

(*Continued from page 798*)

Metal-edge Filter

Purolator Products, Inc., Depart. 194, Rahway, N. J., has a metal-edge filter that filters particles varying in size from .025 to .0025 inch. It is a one-piece unit of a continuous spiral trapezoidal ribbon on stainless steel wound into cylindrical form. The ribbon is manufactured with precisely-spaced integral risers which provide a uniform filtering action. Motorized scraper blades, mounted on the outside of the element and held in place while the element revolves, scrape against the element and keep the filtering surface open and clear of accumulated matter removed by the filtration action.

Automatic Sealing Machine

PMC Industries, 293 Hudson Street, Hackensack, N. J., have developed a high-speed machine for automatically applying aluminum lids, seals, foils, and other ductile metal closures to containers, at speeds up to 180 per minute. Metal closures are applied to glass or metal containers without the need for small spinning wheels and intricate mechanisms.

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FMC Packaging Machinery Division, 4900 Summerdale Avenue, Philadelphia 24, Pa., has developed the Model 600 Checkweighter for high-speed checkweighing of open, unstable containers. At any speed up to 300 per minute, the machine receives production from any packaging operation, weighs each article, and instantly diverts off-weights from the line.

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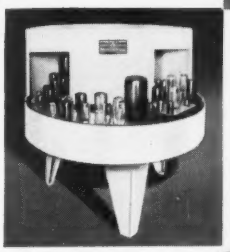
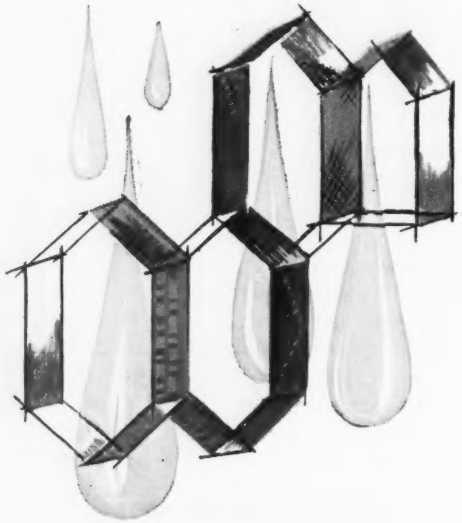
For Air Cleaning
containers of any size or type. The E-Z Air Cleaner is ideal for semi-automatic packaging operations. Small, portable. Containers are inverted over air valves, two at a time, up to 40 per min. Fast, efficient. Write for the "E-Z Bulletin."



For Rinsing
with cold or hot water or steam. Handles any size bottle or jar. Rinses inside and outside of container if desired. Bottle Rest protects against neck-chipping. Operation is simple, effective. Write for "Rotary Rinser Bulletin."

Feed Containers
to your packaging line at a steadier pace and a lot cheaper! Just dump 'em on, and let the Feeder take charge. Handles any shape or size container. Pays for itself quickly. Write for the "Feeder Bulletin."

for Solubilization



SOLULAN®

water and alcohol soluble lanolin derivatives...leave emollient films on skin and hair

THE SOLULANS are 100% active emollient ethoxylated lanolin derivatives. Their unique chemical structure induces solubilization of many otherwise water-insoluble substances and, at the same time, adds valuable conditioning properties to cosmetics and pharmaceuticals. Only the SOLULANS provide this remarkable combination of effects.

Although the SOLULANS are water soluble, they leave persistent emollient films which resist washing away. We have obtained this unusual property by giving them a hydrophobic toe-hold in the shape of lanolin sterols and/or acetyl groups.

SUGGESTED APPLICATIONS

- lotions and creams
- aerosols
- antiperspirants
- shaving preparations
- make-up
- shampoos
- rinses
- cold waves
- hair dyes
- other treatment preparations

Complete technical data, samples, and suggested formulas are available from our research laboratories.

Amerchol

AMERICAN CHOLESTEROL PRODUCTS, INC.

Amerchol Park • Edison, New Jersey

Hardness Tester

Testing Machines Inc., 72 Jericho Turnpike, Mineola, N. Y., is offering a hardness tester developed by Chas. Pfizer & Company, Inc., to determine the hardness of chemical tablets, as well as pellets and other caked or compressed materials.

The Pfizer Tester is shaped somewhat like a pliers with a dial gauge. As the sample is squeezed between two anvils, the maximum pressure in pounds and kilograms is recorded on the dial. Standard testing capacity is 35 pounds, but higher ranges can be provided to order.

Sanitary Piston Filler

Chase Equipment Company, Brooklyn, N. Y., has introduced the Chase Sanitary Piston Filler for dispensing creams and other viscous products that require constant temperature control.

Thermostatically controlled water from a self-contained heating system is constantly recirculated through the double-jacketed stainless steel hopper and cylinder to maintain any predetermined temperature up to 160° F.

3-Zone Pasteurizer-Cooler

Standard Metal Products Co., 123 N. Racine Ave., Chicago 7, Ill., has developed a 3-zone unit to pasteurize, clean, cool and dry food, drug, cosmetic, and beverage products in glass, metal or plastic containers.

In the first zone, the containers are cooked or pasteurized by steam or high temperature water from above and below to insure uniform processing.

As the containers move into the cooling zone on the conveyor, they are washed by a fine mist from overhead atomizer sprays, which then evaporates to cool the containers and contents.

The containers then move into the drying zone where they are sparkle-dried by air blown from different angles. The clean, dry containers are then discharged to the take-away conveyor, ready for labeling.

Labeler-Imprinter

Avery Label Company, 1616 S. California Ave., Monrovia, Calif., has developed an automatic labeler-imprinter-conveyor designed to make packaging lines more versatile.

The imprinter is electrically coupled to the labeler, and automatically feeds printed labels as required at speeds up to 120 per minute. It handles labels from 1⅝ by ½ inches to 4¾ by 4½ inches, and prints from type or rubber plates.

Automax Cartoner

Redington Division of Crompton & Knowles Packaging Corporation, Bellwood, Ill., has developed a low-cost, moderate-speed compact cartoner requiring only one operator. It operates at 72 packages per minute. •

COMING EVENTS . . . . .

JUNE

15 **Synthetic Organic Chemical Manufacturer's Assn.,** luncheon meeting, Hotel Roosevelt, N. Y. C.

15-16 **Drug and Allied Products Guild,** annual meeting, Concord, Kiamesha Lake, N. Y.

15-16 **American Chemical Society,** National Colloid Symposium, Univ. of Rochester, Rochester, N. Y. (A.C.S., 1155 Sixteenth St., N. W. Washington 6, D. C.)

18-24 **Pharmaceutical Advertising Club** advanced seminar for pharmaceutical marketing executives, Howard Graduate School of Business Administration, Cambridge, Mass. (P.A.C., 489 Fifth Ave., N. Y.)

19-21 **American Society of Pharmacognosy,** annual meeting, University of Houston, College of Pharmacy, Houston, Texas (Roll S. Westly, Eli Lilly & Co., 740 South Alabama St., Indianapolis 6, Ind.)

19-23 **Gordon Research Conference,** Cell Structure and Metabolism, Kimball Union Academy, Meriden, N. H. (Dr. W. George Parks, University of Rhode Island, Kingston, R. I.)

22-25 **American Therapeutic Society,** Essex House, N. Y. C.

23 **Parenteral Drug Assn.,** scientific meeting (afternoon and evening), Warwick Hotel, Philadelphia, Penna. (P.D.A. 1420 Snyder Ave., Philadelphia 45, Penna.)

25-30 **American Medical Assn.,** Exposition, New York City Coliseum, annual meeting, N. Y. C.

26-30 **American Medical Assn.,** annual meeting, Statler-Hilton Hotel, New York City.

27 **Pharmaceutical Advertising Club,** joint meeting with the Midwest P.A.C., Hotel Plaza, N. Y. C. (P.A.C., 489 Fifth Ave., N. Y. C.)

27-29 **Society for Investigative Dermatology,** N. Y. C.

28 **Symposium on the Problem of the Aging Skin** (2 p.m.), sponsored by the Committee on Cosmetics, A.M.A., Henry Hudson Hotel, N. Y. C. (Committee on Cosmetics, A.M.A., 535 North Dearborn St., Chicago 10, Ill.)

JULY

3-7 **Gordon Research Conference,** Vitamins and Metabolism, Kimball Union Academy, Meriden, N. H. (See above.)

10-14 **Gordon Research Conference,** Chemistry, Physiology and Structure of Bones and Teeth, Kimball Union Academy, Meriden, N. H. (See above.)

10-21 **Philadelphia College of Pharmacy and Science,** postgraduate course in the preparation of parenteral products, under the direction of Dr. Kenneth E. Avis, Associate Professor of Pharmacy. (Registrar, Philadelphia College of Pharmacy and Science, 43rd St., Kingsessing and Woodland Avenues, Phila. 4, Pa.)

17-21 **Gordon Research Conference,** Microbiological Deterioration, Tilton School, Tilton, N. H. (See above.)

31 **Gordon Research Conference,** Medicinal Chemistry, through Aug. 4, Colby Junior College, New London, N. H. Steroids and Other Natural Products, New Hampton School, New Hampton, N. H. (See above.)

AUGUST

7-11 **Gordon Research Conference,** Toxicology and Safety Evaluations, Kimball Union Academy, Meriden, N. H. (See above.)

10-16 **International Congress of Biochemistry,** Moscow, U.S.S.R. (N. W. Sissakian, Leninsky prospekt 33, Moscow, B-71, U.S.S.R.)

14-18 **Canisius College Fifth Annual Infrared Spectroscopy Institute,** Buffalo, N. Y.

20-24 **American Veterinary Medical Assn.,** annual convention, Sheraton Cadillac Hotel, Detroit, Mich.

21-25 **Gordon Research Conference,** Food and Nutrition, Colby Junior College, New London, N. H. (See above.)

22-25 **International Pharmacological Meeting** (first), Stockholm, Sweden

28 **Gordon Research Conference,** Cancer, Colby Junior College, New London, N. H. (See above.)

SEPTEMBER

3-8 **American Chemical Society,** annual fall meeting, Chicago, Ill. (A.C.S., 155 Sixteenth St., N.W., Washington 6, D.C.)

4-8 **International Congress of Pharmaceutical Sciences,** Scientific Section, Pisa, Italy (Prof. Dott. A. E. Vitolo, General Secretary, Federation Internationale Pharmaceutique, Piazza Carrara, 10, Pisa, Italy)

5-8 **National Chemical Exposition,** concurrent with the fall national meeting of the **American Chemical Society,** The Chicago Ampitheater, Chicago, Ill. (Chicago Section, A.C.S., 86 Randolph St., Chicago 1, Ill.)

11-15 **Instrument Society of America,** fall conference and exhibit, annual meeting, Los Angeles, Calif.

12 **Society of Cosmetic Chemists,** Chicago Chapter meeting, (S.C.C., 2 East 63rd St., N. Y. C. 21)

12 **Synthetic Organic Chemical Manufacturers Assn.,** luncheon meeting, Hotel Roosevelt, N. Y. C.

14 **Pharmaceutical Advertising Club,** meeting, Roosevelt Hotel, N. Y. C. (P.A.C., 489 Fifth Ave., N. Y. C. 20)

14-17 **Drug, Chemical & Allied Trades Assn.,** annual meeting, Pocono Manor Inn, Pocono Manor, Pa.

17-20 **First Annual Conference on Pharmaceutical Analysis** sponsored by the Extension Services in Pharmacy in cooperation with The School of Pharmacy, University of Wisconsin, (Richard S. Strommen, 301 Pharmacy Building, Univ. of Wis., Madison, Wis.)

20 **American Society of Perfumers,** closed meeting, Advertising Club, 35th St. and Park Ave., N. Y. C. (A.S.P., 630 Fifth Ave., N. Y. C. 20)

24-27 **Federal Wholesale Druggists Assn.,** annual meeting, The Greenbrier, White Sulphur Springs, W. Va.

26-27 **Society of Cosmetic Chemists** seminar meeting, Barbizon Plaza (S.C.C., 2 East 63rd St., N. Y. C. 21)

29-30 **American College of Apothecaries** annual convention, Jack Tar Hotel, San Francisco, Calif.

OCTOBER

1-6 **National Assn. of Retail Druggists'** annual convention, Hotel Fountainbleau, Miami Beach, Fla.

9-12 **11th Annual Instrument Symposium and Research Equipment Exhibit,** National Institutes of Health, Bethesda 14, Maryland.

10 **Synthetic Organic Chemical Manufacturers Assn.,** luncheon meeting, Hotel Roosevelt, N. Y. C.

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- treatment products

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OCTOBER (Cont'd)

10 **Chicago Perfumery, Soap and Extract Assn., Inc.,** luncheon, Sheraton Towers. (Edward F. Laseh, Tenn. Products and Chemical Corp., 200 S. Michigan Ave., Chicago 4, Ill.)

10 **Society of Cosmetic Chemists** Chicago Chapter meeting, Henrici's Restaurant, Merchandise Mart, Chicago, Ill. (S.C.C., 2 East 63rd St., N. Y. C. 21)

12 **Pharmaceutical Advertising Committee** meeting, Roosevelt Hotel, N. Y. C.

14-19 **National Wholesale Druggists' Assn.,** annual convention, Americana Hotel, Bal Harbour, Fla.

16-19 **American Dental Assn.,** annual session, Philadelphia, Pa. (A.D.A., 222 East Superior St., Chicago 11, Ill.)

18 **American Society of Perfumers,** open meeting, Advertising Club, 35th St. and Park Ave., N. Y. (A.S.P., 630 Fifth Ave., N. Y. C. 20)

18-20 **Packaging Institute, Annual National Packaging Forum,** Biltmore Hotel, N. Y. C. (Chas. A. Feld, P.I., Inc., 342 Madison Ave., N. Y. C. 17)

31 **American Society for Microbiology,** first Interscience Conference on Antimicrobial Agents and Chemotherapy, through Nov. 2. Commodore Hotel, N. Y. C. (A.S.M., 19875 Mack Ave., Detroit 36, Mich.)

NOVEMBER

1-3 **Parenteral Drug Assn.,** annual convention, Statler-Hilton Hotel, N. Y. C. (P.D.A., 1420 Snyder Ave., Philadelphia 45, Penna.)

2-3 **Society of Plastics Engineering** Plastics in Packaging, North Texas Section, Sheraton-Dallas Hotel, Dallas, Texas

7-10 **Packaging Machinery Manufacturers Institute Show,** Cobo Hall, Detroit, Mich. (W. L. Redding, Shea Expositions Corp., One Gateway Center, Pittsburgh 22, Penna.)

14 **Synthetic Organic Chemical Manufacturers Assn.,** luncheon meeting, Hotel Roosevelt, N. Y. C. (S.O.C.M.A., 41 East 42nd St., N. Y. C. 17)

14 **Society of Cosmetic Chemists,** Chicago Chapter, (See Henrici's Restaurant, Merchandise Mart, Chicago, Ill. (See above.)

15 **American Society of Perfumers,** open meeting, Advertising Club, 35th St. & Park Ave., N. Y. C. (See above).

16-20 **Fifth International Automation Congress and Exposition,** New York Trade Show Bldg., New York City.

17-20 **Packaging Machinery Manufacturers Institute Show,** New York Coliseum, N. Y. C. (Albert R. Stevens, Elgin Mfg. Co., Inc., Elgin, Ill.)

24 **Manufacturing Chemists' Assn.,** Statler Hilton Hotel, New York City (M. F. Crass, M.C.A., 1825 Connecticut Ave., N.W., Washington 9, D. C.)

28 **Society of Cosmetic Chemists,** annual meeting and dinner dance, Biltmore Hotel, N. Y. C. (S.C.C., 2 East 63rd St., N. Y. 21)

29 **Toilet Goods Assn.,** Scientific Section meeting, Waldorf-Astoria Hotel, N. Y. C. (T.G.A., 1270 Ave. of the Americas, N. Y. C. 20)

30 **Exposition of the Chemical Industries,** New York Coliseum (E. K. Stevens, International Exposition Co., 480 Lexington Ave., N.Y.C. 17)

DECEMBER

4-6 **Chemical Specialties Mfg. Assn.,** annual meeting, Roosevelt Hotel, N. Y. C. (C.S.M.A., 50 East 41st St., N. Y. C. 17)

DECEMBER (Cont'd)

5 **Cosmetic Industry Buyers & Suppliers Assn.**, annual Christmas party, Waldorf-Astoria Hotel, N. Y. C. (Howard T. Kaneff, Ar-kay Printing Co., 200 Hudson St., N. Y. C. 13)

7 **Synthetic Organic Chemical Manufacturers Assn.**, annual meeting and dinner, Hotel Roosevelt, N. Y. C. (S. Stewart Graff, Sec., S.O.C.M.A., 41 East 42nd St., N. Y. C. 17).

7-9 **Pharmaceutical Manufacturers Assn.**, mid-year and eastern regional meeting, Waldorf-Astoria Hotel, N. Y. C. (Dr. J. O'Neill Closs, P.M.A., 1411 K Street, N.W., Washington 5, D.C.)

7-10 **American Medical Assn.**, clinical meeting, Dallas Auditorium, Dallas, Texas

9 **The Proprietary Assn.**, Research and Scientific Development meeting, Hotel Roosevelt, New York City (Dr. Howard A. Prentice, 810 18th St., N.W., Washington 6, D.C.)

12 **Chicago Perfumery, Soap and Extract Assn., Inc.**, annual business meeting and luncheon, Sheraton Towers. (Edward F. Lasch, Tenn. Products and Chemical Corp., 200 S. Michigan Ave., Chicago 4, Ill.)

14 **Pharmaceutical Advertising Committee** meeting, Roosevelt Hotel, N. Y. C.

16 **Chicago Perfumery, Soap and Extract Assn., Inc.**, Christmas Ball, Conrad Hilton Hotel. (See above.)

20 **American Society of Perfumers**, closed meeting, Advertising Club, 35th St. & Park Ave., N. Y. C. (A.S.P., 630 Fifth Ave., N. Y. C. 20).

RECENT PATENTS

(Continued from page 834)

2,980,699—S. R. Penick and Company—Dihydropyranocoumarin Derivatives.

2,980,710—G. D. Searle & Co.—2-Haloandrost-1-Ene-3, 17-Diones.

2,980,711—G. D. Searle & Co.—6-Methylene-Steroids.

2,980,712—Merck & Co., Inc.—Allopregnane-3β, 17α-Diol-11, 20-Dione.

2,980,713—Merck & Co., Inc.—16-Methyl-3α, 17α-Dihydroxy Steroids of the Pregnane Series.

2,980,714—Les Laboratoires Francais de Chimiotherapie, Paris, France — 20-Keto-16α-Lower-Alkoxymethylated Steroids.

2,980,728—Chas. Pfizer & Co., Inc.—N-(Alkyl, Aryl and Heterocyclic) β-(Carboalkoxy and Carboaryloxy) Alkanoyl Amides.

2,981,655—Carroll M. Williams—Products Having Juvenile Hormonal Activity and Their Production.

2,981,656—LaWall & Harrisson—Gastric Acid-Counteracting Composition.

2,981,657—Bariatric Corporation — Thyroprotein and Strophanthin Composition for reducing body weight.

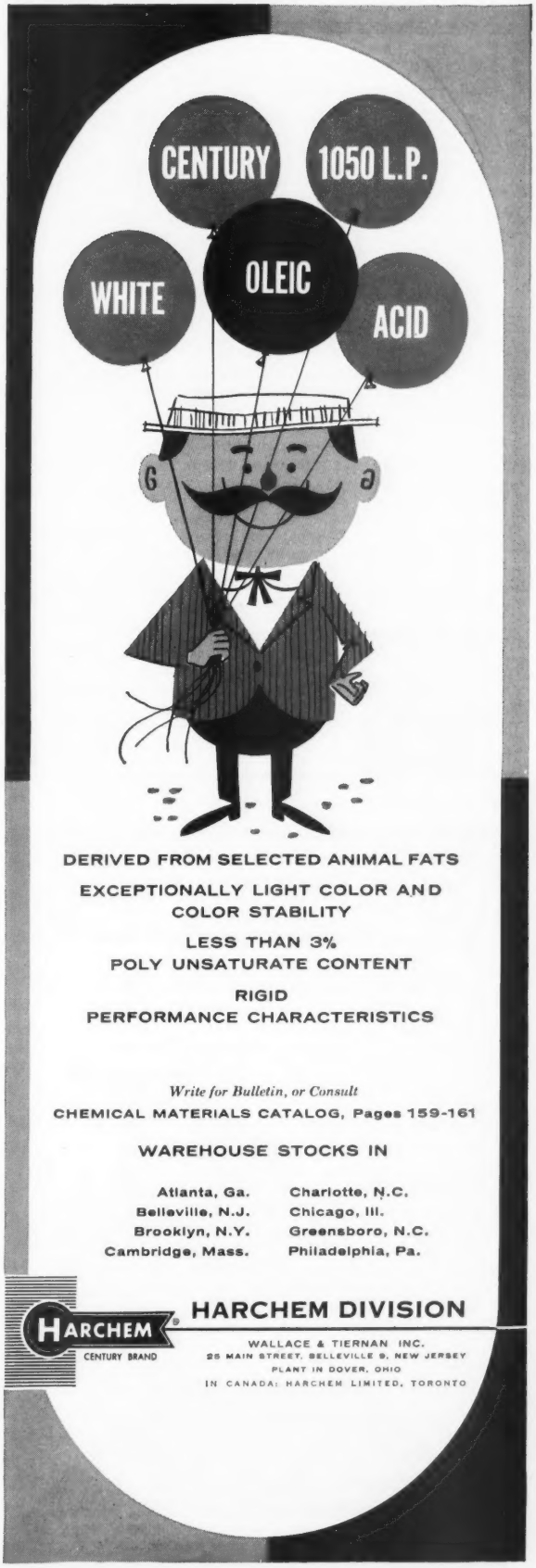
2,981,658—Julius S. Youngner—Lipid Purification and Concentration of Viruses and Vaccines Therefrom.

2,981,731—Parke, Davis & Company—Benz[C]Acridine Derivatives.

2,981,735—Union Chimique Belge (Belgium) — New Piperazine Derivatives.

2,981,736—Societe des Usines Chimiques Rhone-Poulenc, Paris, France—Iminodibenzyl Derivatives.

2,981,737—Parke, Davis & Company—Pyridine Com-



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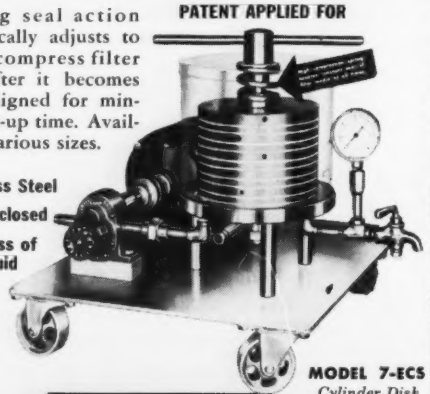

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2,981,738—Allied Chemical Corporation — Heterocyclic Nitrogen Derivatives of Bis(p-Dialkylaminophenyl)-Methane.

2,981,742—Merck & Co., Inc.—Lower alkyl Δ^5-3-Acyloxy-7-Bromo-Bixnorcholenates.

2,982,687—Upjohn — Anhydrocycloheximide and Its Horticultural Fungicidal Use.

2,982,688—Upjohn—Dehydrocycloheximide and its Systemic Translocation Antifungal Use for Foliage Growth.

2,982,689—Olin Mathieson—Thiostrepton.

2,982,690—Diamond Laboratories — Injectable Veterinary Iron Compositions.

2,982,691—Walter A. Winsten—Stable Vitamin A Compositions.

2,982,694—Merck & Co., Inc.—Steroid Production with Streptomyces and Cladosporum.

2,982,700—Miles Laboratories, Inc.—Diagnostic Composition.

2,982,766—Merck & Co., Inc.—New Vitamin B_{12} Factor.

2,982,767—Smith Kline & French Labs.—18-Oxygenated Pregnanes.

2,982,768—Merck & Co., Inc.—16β-Lower Alkyl Pregnane Derivatives.

2,982,769—Ciba—Active Deserpidine Substance.

2,982,770—Ciba—Alkyl Deserpidates.

2,982,772—Monsanto — Octahydro-5aH, 10aH, 4a, 9a-Epoxydibenzo-p-Dioxin-5, 10a-Diol.

2,982,774—Merck & Co., Inc.—21-Aldehydes of 9a-Fluoro-Steroids and Derivatives Thereof.

2,982,775—Schering Corporation—11-Oximino-, Amino- and Acylamino-Steroids.

2,982,776—Merck & Co., Inc.—16α-Methylpregnane Derivatives.

2,982,777—Schering A.G., Germany—Thiocyanohydrine Derivatives of the Steroid Series.

FRAGRANCE INDUSTRY

(*Continued from page 729*)

fail to conclude that the dynamic potential for increasing sales has only begun to make itself felt. The spray package that gave women the opportunity to try different fragrances themselves, without waiting for a gift, gave the first impetus to the use of fragrances for daily good grooming instead of luxury items for special occasions. It is not too much to expect that designers, merchandisers and perfumers will, in good time, again come up with still other means of putting fragrance into the hands of more women, as well as on their dressing tables.

DECORATING PLASTICS

(*Continued from page 745*)

Almost all plastics require some finishing before decorating—the removal of flash or both flash and gates, the reaming of a bottle neck to exact dimensions, and, for caps, sometimes polishing. The method

(*Continued on page 842*)

Industry's Books . . .

1961 U. S. Excise Tax Guide, *by CCH Editorial Staff, Chicago and New York, Commerce Clearing House, Inc., One Vol. 6" x 9", 448 pages, Heavy paper cover,* **$5.**

This new edition contains important information for anyone involved in the intricacies of excise taxes. Completely up to date, the new Guide reflects the Tax Rate Extension Act of 1960, which continues certain key excise tax rates at present levels until July 1, 1961—rates previously scheduled for reduction on July 1, 1960. An exclusive feature of the Guide, the 20-page check list of taxable and nontaxable items, gives quick answers to hard-to-find questions on taxability.

Remington's Practice of Pharmacy, *Martin & Cook, 1961, 1866 pages, and more than 1,000 illus., Twelfth Ed., Mack Publishing Co., Easton, Pa., Cloth,* **$20.**

The Twelfth Edition of Remington's Practice of Pharmacy, the latest to be released in the series beginning in 1885, is the most informative textbook and reference work on American pharmacy and medicines yet published. This famous book, which also appears in a Spanish edition, is used in practically every country in the world as a reference treatise on the manufacture, chemistry, pharmacology, and therapeutics of all important drugs. The editors, Drs. Eric W. Martin, E. Fullerton Cook, E. E. Leuallen, Arthur Osol, Linwood F. Tice, and C. T. Van Meter, with the assistance of about 250 contributors, have spent three years in bringing the contents up-to-date and completely modernizing the method of presentation.

Here is a book which groups all drugs according to their therapeutic use and classifies them as to chemical categories. It includes almost every drug and chemical used today in medicine and pharmacy, with complete commentary on drugs in USP XVI, National Formulary XI, the British Pharmacopoeia, the International Pharmacopoeias, and other recent compendia. This is a great treatise on the manufacturing, standardizing, and dispensing of pharmaceutical products, with biological and chemical properties and tests, assays, uses, and doses; also a guide to the legal obligations of the pharmacist and the professional services rendered in helping to maintain community health—a textbook and reference guide for pharmacists, physicians, and other medical scientists.

Partition of Cell Particles and Macromolecules, *by Per-Ake Albertsson, 231 pp., John Wiley & Sons, New York (1960), Cloth,* **$7.**

The main part of the investigations described in this book has been carried out at the Institute of Biochemistry, University of Uppsala, Sweden. It is concerned primarily with the distribution and fractionation of cells, viruses, microsomes, proteins, nucleic acids, and antigen-antibody complexes in aqueous polymer two-phase systems. Contents: 1—Introduction; 2—Liquid Polymer Phase Systems; 3—The Distribution of Particles in a Two-Phase System: Theory; 4—The Distribution of Particles and Macromolecules in Polymer Two-Phase System: Experimental; 5—Countercurrent Distribution; 6—Isolation of Ribonucleoprotein Particles from Rat Brain Microsomes; 7—Concentration and Purification of Viruses; 8—Antigen-Antibody in Two-Phase Systems.

The Encyclopedia of Microscopy, *Edited by George L. Clark, Research Professor of Analytical Chemistry, Emeritus, University of Illinois, 693 pp., Illus., Reinhold Publishing Corp., New York (1961), cloth,* **$25.**

Internationally recognized experts survey the broad field of microscopy in over 140 specially written articles. The biological, medical, pharmaceutical, forensic, chemical, engineering and industrial applications of microscopy as presented in this encyclopedia are easily the most complete and up-to-date ever offered in any kind of text or reference work. For example, articles in the biological field cover such important aspects of the subject as cell structure (leaves, plants, and the like) and blood. The coverage of every conceivable aspect of electron, electron mirror and field emission microscopy by the most eminent authorities in the world is an extraordinary scientific achievement. Entirely new and unpublished material on the solid image microscope, the ultrasonic microscope, and on electronic combinations such as flying spot and TV microscopes is another significant contribution of this invaluable encyclopedia.

Infrared Absorption of Inorganic Substances, *by Katheryn E. Lawson, Physical Sciences Research Dept., Sandia Corp., 200 pp., Reinhold Publishing Corp., New York (1961), cloth,* **$6.75.**

This is the first book to compile and review all the currently available information on the infrared absorption spectra of inorganic substances. It brings together in one volume the empirical data and interpretations of a new and increasingly important phase of spectroscopy. Tables of observed frequencies and discussions are included to emphasize the applicability of infrared spectroscopy of structural inorganic chemistry. The first part summarizes current experimental techniques with reference to the controlling factors, and cites the varied applications of infrared spectroscopic studies of inorganic materials. The second part presents as many correlations and assignments as are available from the experimental data of various observers.

Dermatology for Students, *edited by Ray O. Noojin, M.D., Professor and Chairman of the Department of Dermatology, Medical College of Alabama, 301 pp., Illus., Charles C. Thomas — Publisher, Springfield, cloth,* **$9.50.**

This work represents the collective teaching prowess of the most competent dermatological teachers in America. Twenty-eight authors present just those phases of dermatology in which they are most interested and skilled. Because of variation in style and methods of approach to problems and their solution, the result is a colorful and intriguing text. As far as therapy is concerned, each chapter is complete in itself. Therapeutic suggestions in each are sufficiently clear to enable the student to give the directions indicated or write the desired prescription without confusion.

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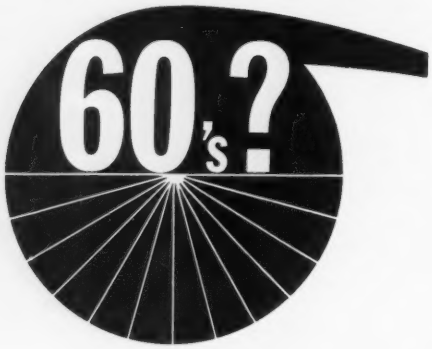

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Write for Catalog

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(Continued from page 840)

is determined by the nature of the plastic, the size and shape, and by the cost of the operation. It should be pointed out that the more carefully designed the mold, the less finishing is required.

One of the simplest methods for both removing flash and polishing in the case of caps is that of tumbling. The molded caps are placed in a revolving barrel-shaped container with abrasives and hardwood pegs, which serve to rub the abrasive against the articles, or simply with polishing agents such as wax-impregnated string mops, bits of chamois or leather findings. The tumbling action rounds sharp edges and applies a finishing simultaneously. Since the only labor involved is that of loading and unloading the barrels, and the equipment is not costly, it is an inexpensive method for small objects with no projections that would break easily. Larger articles may be tumbled together with hardwood pegs or balls.

Blow-molded bottles require the trimming of flash, which is usually done by machine. In some instances the bottle neck may have to be reamed to exact dimensions for a perfect fit of the closure. Injection-molded bottles are less likely to require adjustment of the neck dimensions, since the molding can be more precise, but they, too, have flash that must be trimmed.

Surface iregularities on caps are sometimes covered by spraying, which can add a transparent coating that has the further advantage of giving less costly plastics the properties of better ones—for instance, greater resistance to oils—besides a more perfect surface finish.

Decorating in the process of molding may be done by means of unusual shapes for both caps and containers. If a standard mold must be used for a container, there is all the more reason for using an outstanding cap to give the package individuality. Among the photographs on page 745, there are examples of such effects, notably beading, fluting, embossing and a dispensing unit the same color as the bottle molded into a white cap.

Decorative effects in molding are also achieved by the use of color. Colors can be combined to give a mottled effect, either delicate as in the Yardley cap (page 745, bottom left) and the Avon cap (bottom, third from left), or a striking effect as in the cap shown at the top left, in which gold was combined with blue and white for a cap for a blue container. Colors may also be used in caps and containers for either harmony or contrast.

The three most commonly used methods of decorating after the molding is completed are hot stamping, silk screen printing, and offset printing. Other possibilities are metalizing and a newer method of heat transfer. Decalcomania, filling in, spray coating and paper labeling are also used.

Hot stamping is probably the cheapest and the

most adaptable method. The pigment is transferred from colored leaf or foil by a hot die lowered, under controlled pressure and time, onto the piece to be decorated. The foil is fed automatically on rollers, and is moved after each cycle. The leaf selected must be compatible with whatever plastic is being decorated. Hot stamping produces a durable design in a relatively simple manner, and on polyethylene it permits the use of all colors, can produce a multicolored effect although it is not the most practical means of doing so, is a relatively fast process with no size limitations, and is the best for heavy designs. Good metallic effects can be produced by hot stamping.

New gold and silver effects are now available with hot stamping, by means of a polyester film aluminized by the vacuum-deposit method, which is discussed further on. When coated with a tarnish-resistant color film, the result is a brilliant gold.

In silk screening, which also resists wear and gives a good impression, ink or paint is transferred through a silk screen onto the container. This can be done fully automatically. Adherence is achieved either by solvent action in the ink or paint, or by the use of inks and paints that polymerize when heated. Colors are usually applied one at a time. Round containers can be rotated against the screen to apply front and back labels in a single operation. Although silk screens are less expensive than hot-stamping dies, the screen method requires a drying period in an oven, which could prove a drawback in some cases.

The silk screen method on polyethylene is durable and gives good results, with the exception of metallic effects, which are better achieved by hot stamping. Several colors can be used, but the screening process is less practical for this than hot stamping, which is more practical for several colors although the appearance may not be altogether as good.

To produce fine detail, offset printing is most often used. Offset has the great advantage of allowing the printing of several colors in a single cycle. Inks are now available for thermoplastics which adhere and wear well; on thermosetting plastics a lacquer or varnish coat may be required. The impression is not as strong as that in hot stamping or silk screening, but color registration is highly accurate in this method. Recently, offset has been used to excellent advantage on plastic tubes, where printing on solid-color backgrounds with an over-printing of transparent finish has been shown to increase luster and to make for greater durability.

On polyethylene, offset is durable, permits the use of all colors, has no size limitations, and reproduces both heavy and light designs well. Its disadvantage is in a light laydown of ink; and it is less preferable for metallic effects than hot stamping.

Silk screen printing is now most commonly used on polyethylene, with excellent results. Offset printing is currently used for round bottles, but is said to be

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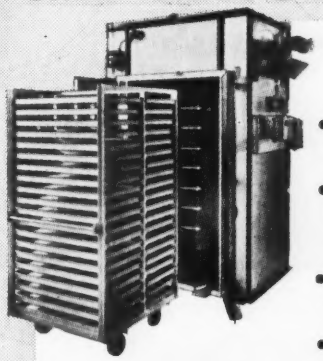

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increasingly used on polyethylene, especially for several colors. For multiple colors on other than round bottles, heat-transfer labeling is growing in use, now that the process has been improved for polyethylene.

Metalizing of plastics, a decorative effect most often desired for cosmetic containers, can be done by vacuum deposition of aluminum, by chemical spray to deposit silver, and by electroplating.

In vacuum deposition the article is placed on a metal jig to assure that it will be entirely coated in the vacuum chamber. The plastic is then lacquered to produce a shiny surface, either by spraying or by dipping and spinning, and dried in an oven. The jigged pieces are next placed on rotating rods in a vacuum chamber, where pieces of aluminum wire are suspended from tungsten filaments. When the vacuum is reached, a transformer is turned on. This heats the filaments and evaporates the aluminum, which coats the plastic parts. After removal from the vacuum chamber, the thin aluminum coating is lacquered, which makes the finish more durable. A clear lacquer gives a silver finish, with the advantages of being less expensive than an actual silver coating as well as that of durability in use. A colored lacquer produces a gold effect, with the obvious advantage of costing less than actual gold plating.

Care is required in using the proper lacquer coatings, and the plastic must be free of flaws as well as of mold lubricants. Since flaws are exaggerated by the metallizing, the mold must be highly polished, and mold lubricants will prevent an even coating.

Lacquer coatings dry through solvent evaporation and require a bake only to remove these solvents, before the part is placed in the vacuum chamber. Since plastics vary considerably in their reaction to solvents, a lacquer that will not affect the surface of the plastic must be selected. Lacquer coatings are normally very fast drying, which eliminates dust problems, and reduces oven time to a minimum. Top coats that dry in the air are used whenever possible, to eliminate another period in the oven.

The chemical spray method involves an initial lacquer, as does vacuum deposition, and then application of the spray. A final lacquer is applied to keep the silver from tarnishing.

Electroplating gives increased strength, dimensional stability and a good reflecting surface. One form, barrel plating, is largely used for caps. Following precipitation of a conductive coat on the surface by silver nitrate, the caps are plated in barrels containing acid copperplating solution and copper anodes. The barrels rotate during the process. The caps are then polished with steel shot in a burnishing barrel, and plated with gold, silver or nickel in another plating solution. Different materials require special treatment.

Yet another decorating device, and one more recently developed, is heat transfer, which first preprints a design on paper backing. This and a semi-

transparent release coating are transferred by heat and pressure to the container—largely plastic bottles, at present. Transfers are in rolls and are applied automatically.

Polyethylene bottles should be heated after the application to glaze the transfer and assure adhesion. On high-density polyethylene, heating must follow the transfer for complete adhesion.

Heat transfers are available with either high-gloss or matte heat-release coatings. The high gloss tends to be used on polyethylene of standard density, the matte on that of high-density polyethylene, which has a dull surface.

Since this method applies all colors with a single pass, the savings in printing several colors are considerable. Moreover, the heat-release coating is now so improved that its detection would be unlikely without close scrutiny.

Decolcomania printing is done by laying down a design from a preprinted backing. The whole design, regardless of the number of colors, is transferred at one pass. A semi-automatic or manual process, it is especially adaptable for special runs on unusual shapes, for example, where it affords a wider variety of effects than automatic printing could. The background of the decalomania transfer can be translucent or opaque. When applied to plastic containers, the former appears to be part of the package.

Fill-in painting is the process of filling in a design already molded into the plastic with a paint containing a solvent, and then removing the excess paint.

Finally, spray coating involves masking all areas but those to be painted, and then spraying.

In conclusion, a further word about color. Colors have a direct influence on the senses and evoke a remarkable variety of associations having to do with costliness, masculinity or feminity, cleanliness, weight, size, and even professional competence, among others. Consequently, color should be very carefully chosen for package designs, for its appeal, that is, as well as its safety.

A clear-cut visual impact even from a distance (perhaps a supermarket aisle away) is a prime requisite for products that are to be sold by means of self-service. For pharmaceutical products, colors suggesting medical proficiency are of greater significance. Green, rather than purple, would be preferred for drugs, to give an extreme example. Colors emphasizing a special feature of the product are often successful merchandisers.

Printing in color should be made legible by using a color contrasting clearly with that of the package—and labels giving directions or instructions should be brief and to the point, rather than "busy" and downright confusing, as they all too often are.

Decorating plastics requires considerable imagination, as well as a great deal of information, but the results can be altogether effective and appealing.

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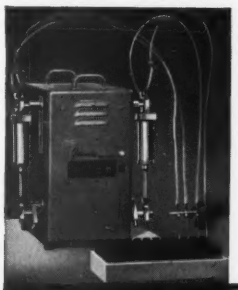

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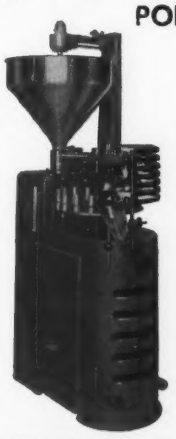

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